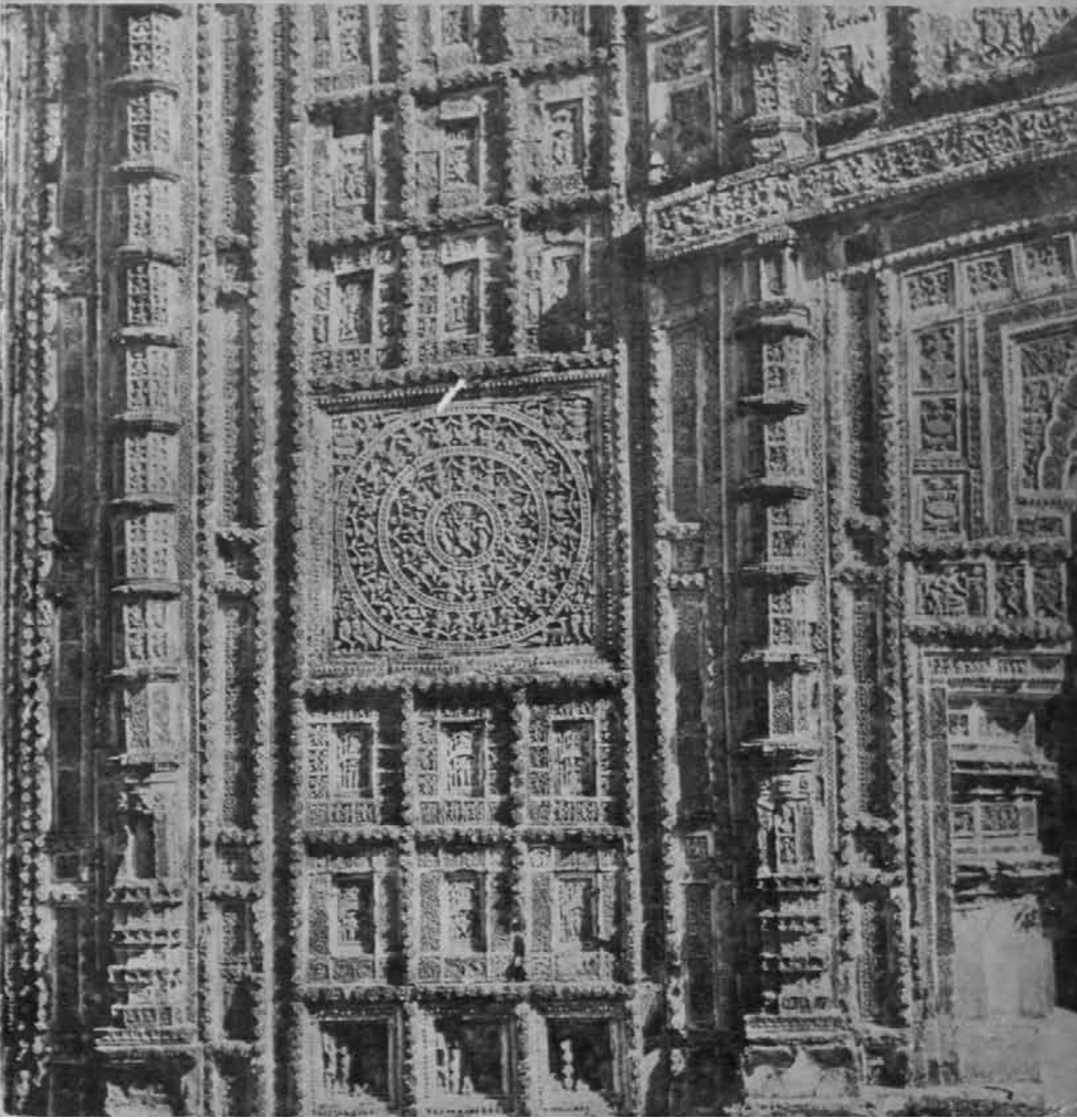
Indian Archaeology

1962 – 63

A REVIEW



INDIAN ARCHAEOLOGY 1962-63
—A REVIEW

EDITED BY

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Director General of Archaeology in India

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In bringing out this tenth number of the annual *Review,* I heartily thank the contributors of the material that has been incorporated herein. While they are no doubt responsible for its accuracy, it is not impossible that a few editorial errors have regrettably crept in; for them I must apologize.

I am beholden to my colleagues and the staff in the Archaeological Survey of India who have helped me in editing the *Review* and in seeing it through the Press.

New Delhi : A. GHOSH
The 22nd December 1965

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INDIAN ARCHAEOLOGY 1962-63

- A REVIEW

I. EXPLORATIONS AND EXCAVATIONS

ANDHRA PRADESH

1. EXPLORATION IN DISTRICT CHITTOOR.—Shri M.L.K. Murthy of the Deccan College Post-graduate and Research Institute, Poona, working under the guidance of Professor H.D. Sankalia, surveyed the valleys of the rivers Bahuda and Punchu and found quartzite tools of the Early and Middle Stone Ages at Agraharam, Aravandlapalle, Chintaparti and Maratavandlapalle, and rolled implements of the Early Stone Age at Ellampalle, Mekalavandlapalle and Pilleru. At four of these localities he also observed cliff-sections showing basal bed-rock overlain by an implementiferous conglomeratic pebbly deposit capped in turn by a silt with calcareous concretions. At Aravandlapalle a fossilized tooth was found in the silt. Dolmens, locally known as Pandava-gullu, were noticed at Ellampalle and on the hillocks called Basinikonda and Madankonda near Madanapalle.

In the same District, Dr. R.V. Joshi and Dr. K.D. Banerjee, assisted by Shri S.N. Raghunath, of the Prehistory Branch of the Archaeological Survey of India[1] explored the valley of the Suvarnamukhi around Tirupati and located many, Early and Middle Stone Age sites.

2. EXPLORATION IN DISTRICT GUNTUR.—In the course of exploration in the District, the Director, Department of Archaeology, Andhra Pradesh, discovered a promising ash-mound at Mallepadu and a group of megalithic stone circles behind the hillock on the western side of the village Mothadaka, both in Taluk Tenali.

3. EXCAVATION AT DHARANIKOTA, DISTRICT GUNTUR.—The South-eastern Circle of the Survey, under Shri M. Venkataramayya, conducted excavation at Dharanikota, situated on the right bank of the Krishna river. A cutting laid across the western side of the fortified township revealed seven structural Phases, of which the earlier six related to the embankment-cum-wharf abutting a navigation-channel, and the latest one to the defence-system. The structural details of each Phase were as follows: Phase I, navigational- channel, cut into the natural laterite ridge which also showed occupational deposits in the shape of a series of hearths with ash, etc. (pl. I A); Phase II, a huge wharf raised upon wooden posts as indicated by rows of post-holes (pl. I B); Phase III, brick wharf built along the inner side of the channel with further heightening of the embankment by a mud

[1] The Archaeological Survey of India is referred to in the following pages as the 'Survey.'

ramp (pl. II A); Phase IV, brick revetment on both sides of the channel with laterite gravel as the packing-material (pls. II B and III A); Phase V, reinforcement of the inner side of the channel with further raising of the embankment by the use of sand and sandstone chips and the provision of retaining-walls of laterite blocks (pl. III B); Phase VI, repairs to the brick revetments and sand-fillings of the earlier Phases resulting from heavy erosions; and Phase VII, following a period of abandonment, filling up of the channel of and conversion of the embankment into a defence-wall.

The megalithic Black-and-red Ware was present throughout in Phases I and II. Glass objects of varying shapes and colours appeared in Phase II (pl.V), an interesting find from this Phase being an ear-ring of palm-leaf (pl. IV B). The Rouletted Ware occurred in Phase III and possibly continued in the following Phase. Phases IV and V did not provide any datable material. The pottery consisted of a grey ware, absent in the earlier levels. Phase VI yielded late Satavahana coins (pl. IV A). From the debris overlying the silting of the channel an inscribed potsherd of *circa* fourth century A.D. was obtained. Phase VII belonged to the post-Ikshvaku period. The initial date of the site is difficult to establish, although *circa* 200 B.C. would be a fair inference.

4. EXPLORATION IN DISTRICT KURNOOL.—In continuation of his previous work in the District {*Indian Archaeology* 1960-61—*A Review*[1], p. 1), Shri I. K. Sharma of the South eastern Circle of the Survey located ancient mounds at Budidepadu and Penchikalapadu, both yielding *inter alia* neolithic implements like celts, chisels, etc., along with microliths and sherds of the burnished grey and black-painted red wares. At Mirapuram he dis covered an extensive megalithic site containing dolmenoid cists with port-holes. The ortho-stats were found to be arranged in the *svastika* pattern. Besides, he also collected the megalithic Black-and-red Ware from the same locality as also from Bastipadu along both the banks of the river Handri.

5. EXPLORATION IN DISTRICT MEDAK.—In continuation of the previous year's work (1961-62, p. 2) Shri M. Siviah of the South-eastern Circle of the Survey discovered prehistoric burials at Pirlapalli and Sivar-Venkatapur and medieval temples at Madur in Taluk Gajwel.

6. EXCAVATION AT YELESWARAM, DISTRICT NALGONDA.—The Department of Archaeology, Government of Andhra Pradesh, under Shri Mohammad Abdul Waheed Khan, continued (1961-62, p. 2) excavation at Yeleswaram. In the course of the work four types of burials were identified: (i) dolmenoid cists; (ii) cists with port-holes; (iii) cairn-circles; and (iv) urn-burials. The megalithic Black-and-red Ware with its concomitant iron industry was duly attested in these burials. Of unusual interest among these was a cairn-circle containing two skeletons, placed one over the other (pl. VI A). The grave-furniture for this inhumation included a perforated stand, a dish and a lid (pl. VI B).

The excavation revealed six Periods, of which Period I was megalithic in cultural content. Period II was marked by the presence of the Red Polished Ware and was represented by a bathing-ghat and huge *mandapa* supported by limestone columns, the stumps of which were still *in situ* over a wide area. In addition, the Period showed develop-ment in plastic art as evidenced by terracotta figurines (pl. VII). Period III yielded coins including one of the Roman emperor Septimus Serverus and was represented by a *chaitya* and two *stupas*, one with *ayaka-platforms* at cardinal points. Period IV was

[1]This publication is referred to in the following pages by the year only.

post-Ikshvaku and showed the influence of the Vishnukundins as evidenced by the discovery of a hoard of their coins. To Period V belonged numerous *deva-kulas* and a sculpture of Vishnu in the late Pallava style. Period VI marked the decline of the settlement and was represented by rubble walls.

ASSAM

7. EXCAVATION AT DAOJALI-HADING, UNITED DISTRICT OF MIKIR AND NORTH CACHAR HILLS.—The Department of Anthropology of the Gauhati University, under Professor M.C. Goswami, assisted by Shri T.C. Sharma, undertook an excavation of a neolithic site at Daojali-Hading, a small hillock standing like a ridge between two nullahs within the Langting-Mupa Reserve Forest. Four trenches were laid out: one on the eastern slope, two on the hill-top and the fourth on the western slope of the hillock. Of these the trench on the eastern slope was the most informative. The excavation revealed a 45-cm. deep single-culture stratum yielding neolithic artefacts in association with a coarse ill-fired pottery. No metal objects were found. The implements comprised celts, including one of the shouldered variety (pl. VIII A), hones, corn-grinders, mullers, pestles, etc. The pottery, of which a large quantity was recovered, was greyish in surface-colour and often showed basket-and cord-impressions on the exterior (pl. VIII B). While the majority of the ware was kiln-baked, a few, with pale-cream cores, seem to have been sun-baked. The work is of special significance inasmuch as a fresh stratified context has been provided for the assemblage of the little-known Eastern Neolithic Culture.

During an exploration which preceded the excavation a bar-celt of iron closely resembling the faceted stone celt was recovered from the eroded surface of the western slope of the hill. No iron objects were, however, found from the excavation.

8. EXCAVATION AT DEOPANI-THAN, UNITED DISTRICT OF MIKIR AND NORTH CACHAR HILLS.—The State Department of Archaeology undertook a small-scale excavation at Deopani-Than. Amongst the notable objects recovered mention may be made of standing stone image of Vishnu and a circular stone with a square hole in the centre, possibly a *yoni-patta.*

BIHAR

9. EXCAVATION AT ANTICHAK, DISTRICT BHAGALPUR.—The Department of Ancient Indian History and Archaeology, University of Patna, under Professor B.P. Sinha and Dr. R.C. Prasad Singh, assisted by Shri B. Narayan, continued (1961-62, p. 3) its work at Antichak. The present excavation uncovered *inter alia* a chamber with a brick pedestal carrying an image of Avalokitesvara (pl. IX). The lower portion of the pedestal bore traces of painting in red and black pigments. A number of terracotta plaques representing various scenes were obtained from the debris overlying the floor. Note worthy among the other finds were three terracotta sealings, a copper ring and an arrow head. On the obverse of these sealings is shown a man in leaping posture over an inscription which, in two specimens, reads *sri Viraba* and *sri Vata-parata.* *A* thick deposit of ash and charcoal was found over different floors, testifying to the destruction of the site by a fire.

10. EXCAVATION AT BALIRAJGARH, DISTRICT DARBHANGA.—The Mid-eastern Circle of the Survey, under Shri Raghbir Singh, assisted by Shri S. Mukherji, conducted

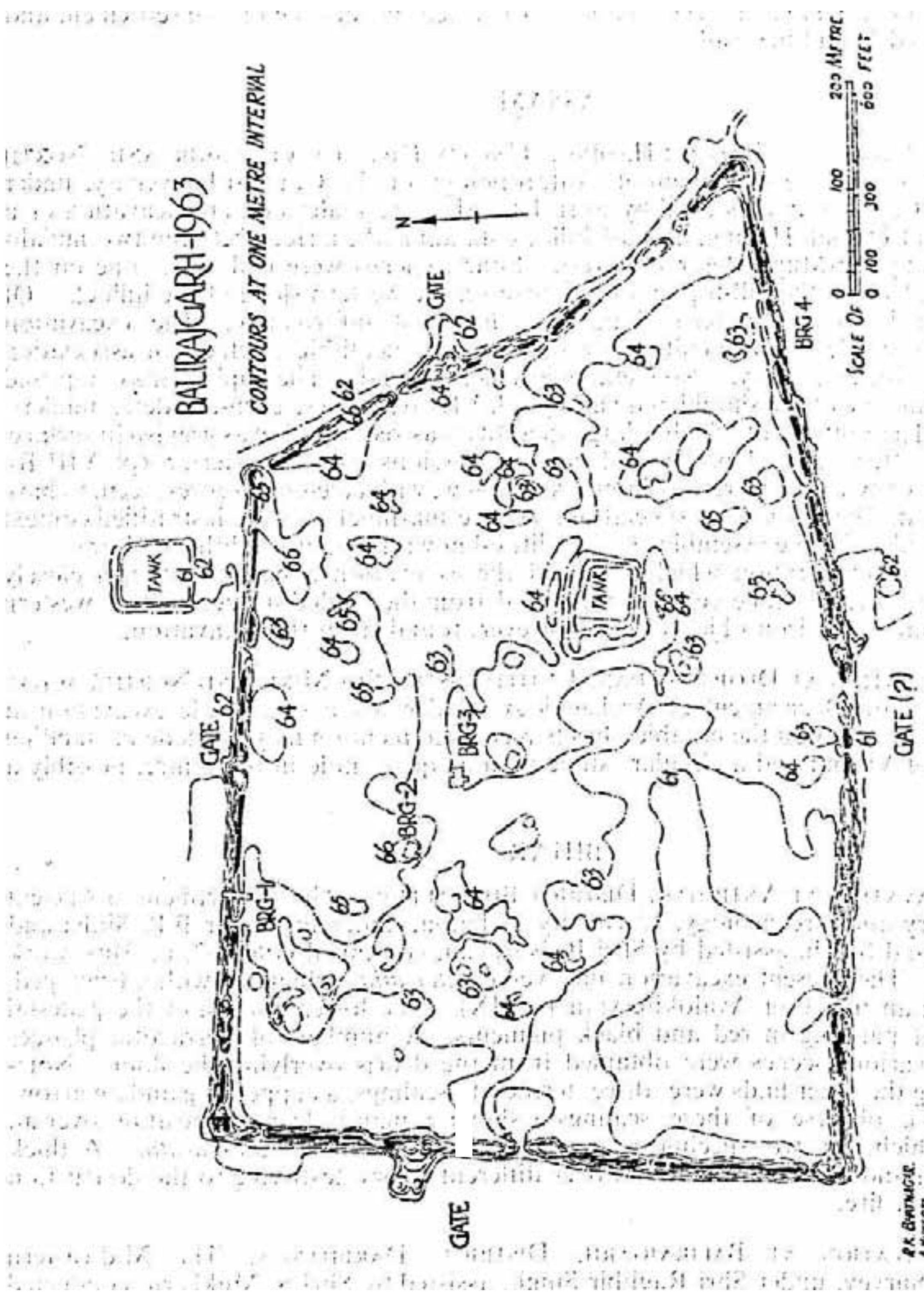

BALIRAJGARH-1963
CONTOURS AT ONE METRE INTERVAL
N
GATE
TANK
BRG-1
BRG-2
BRG-3
BRG 4
GATE (?)
SCALE OF 0 100 200 METRE
0 100 300 600 FEET

FIG. 1

a small-scale excavation at Balirajgarh (fig. 1), 80 km. north-east of Darbhanga. .Four cuttings, two each across the defence-wall and in the habitation-area, were laid out. Due to the high water-table obtaining in the area, the natural soil could not be reached. The excavation nevertheless threw light on the structural details of the fortifications. The defence-wall (pl. X A) consisted of a mud-brick core with brick encasement, the outer one being four times the width of the inner. The wall was battered and measured 5 .18m. at the base and 3 -65 m. at the top., Three Phases of construction including repairs were recognized. The earliest Phase consisted of a mud-brick core (pl. XB) with battered brick revetments, of which the outer had approximately three times the width of the inner. In the second Phase, a brick-concrete ramp was built against the inner face. The third Phase witnessed further reinforcement of the ramp in the shape of a ,3-m. high platform of earth mixed with potsherds, built against the inner face of the fortifications. The reinforcements were necessitated by heavy floods as evidenced by silt-deposits.

From the pre-defence deposits, sherds of the Northern Black Polished Ware were obtained. The fortifications seem to have been built somewhere in the second century B.C/and remained in use till the Pala period; Other finds obtained from the associated levels included beads, coins, Sunga terracotta plaques (pl. XI), bone objects, etc; Besides, three more cuttings, labelled BRG-2 to BRG-4, were also made in different parts of the site. Of these BRG-2 was foun to be a dump and did not contain any occupational deposit but beautiful terracotta dplaques were obtained from this area. BRG-3 revealed remains of a temple and BRG-4, located on the southern defences, presented the same details as BRG-1EXPLORATION IN DISTRICT MONGHYR.—Dr. R.C. Prasad Singh of the, Patna University further explored the Man river around Bhimbandh, where i he recorded a stratified section showing from bottom-upwards: bed-rock; yellow; soil, mixed! with pebbles; boulder-deposit; and red soil. He obtained some tools of the Early Stone Age from the bed of the river as also from the stratified deposits of yellow soil and over lying boulders. Besides, tools of the; Middle and Late Stone Ages were also collected from the neighbouring localities such as Bhim-ka-Bandh and Rehana respectively. In addition, two pieces of ring-or hammer-stones and a small-sized polished celt were also

12. EXCAVATION AT RAJGIR, DISTRICT PATNA.—The resumed excavation (1961-62, p. 7) at Rajgir by the Mid-eastern Circle of the Survey, under Shri Raghbir Singh, brought to light the same sequence of three Periods in the habitation-area as revealed last year in the cutting across the defences.; The occurrence of the Northern Black Polished Ware in the earliest (pre-rampart) levels was duly confirmed. It is interesting; to note that Carbon-14 determination of the charcoal-samples from the pre-rampart layers indicate a date of 245±105 B.C. (TF-45 and TF-46, calculated at 5730 years as half-life value). From a room belonging to the latest occupation, viz.; Sub-period III B, was found a hoard of bone styluses, or! arrow-heads, deposited in a soakage-pit.

With a view to investigating the relationship of the brick fortifications with the enormous rubble fortification wall, a cutting was laid out-across the southern: defences near its south-eastern corner. Three, structural Periods with sub-divisions in i the last one were recognized: Period J,: representing a 3-m;;deposit immediately overlying the natural soil, yielded *inter alia* the N.B.P.; Ware. In the upper levels of this deposit a few rubble walls and a double row of earthen storage-jars (pl. XII A) were met. with.

From the debris of these walls an elaborately-carved steatite plaque (pl. XII B) was obtained. Overlying the debris was the mud-rampart of Period II which in turn supported the stone fortification of Period III. The latter was sub-divided into Sub-periods III A and III B on the basis of repairs, etc.

13. EXPLORATION IN DISTRICT SARAN.—The Department of Archaeology and Museums, Government of Bihar, under Dr. B.S. Verma, during the course of its exploration brought to light the following sites: (i) Don, situated about 34 km. south-west of Siwan, yielding finds belonging to the Gupta and Pala periods; Katchnar, yielding sherds of the black-and-red ware and an image of Vishnu; Maharganj, 3 km. west of Chirand on the bank of the Ghaghara, yielding terracotta ring-wells; Mohendar, 8 km. south-west of Chainwa railway-station on Chapra-Siwan line, yielding medieval glazed pottery and Pala sculptures; and Teai, 28 km. south of Siwan, yielding terracotta human heads similar to those found at Chirand.

14. EXCAVATION AT CHIRAND, DISTRICT SARAN.—The Department of Archaeology and Museums, Government of Bihar, under Dr. B.S. Verma and Shri Lala Aditya Narain, undertook excavation at Chirand on the Ghaghara river, 11 km. east of Chapra town. The excavation revealed three successive Periods, of which the upper two were historical.

Period I, ascribable to the first half of the first millennium B.C., was characterized by the occurrence of the white-painted black-and-red ware, microliths and ivory and bone objects (pl. XIII B). Besides, a few pieces of copper were also found in this deposit. The assemblage corresponds to that of Period I at Sonpur and Sohagaura.

Period II *(circa* 600-100 B.C.), of which no structural remains were uncovered, marked the advent of iron and the use of the Northern Black Polished Ware. The black-and-red ware of the preceding Period became finer in fabric. Besides, a grey ware also made its appearance. A few sherds of the black-and-red and black wares also bore graffiti. The other finds from the Period included terracotta human and animal figurines, beads, antimony-rods, pestles, etc.

Period III *(circa* 100 B.C.-A.D. 250) showing three structural phases introduced the ceramics of the early centuries of the Christian era, the N.B.P. Ware having fallen into disuse. The structures, being mostly of burnt bricks, belonged to Buddhist monasteries with provision of a verandah in front of the cells (pl. XIII A). Noteworthy finds included: terracotta figurines with markedly foreign traditions of the Kushan period (pl. XIV A) and also local deities like *sapta-matrika* and Naigamesa; a terracotta tablet having the symbol *purna-ghata* (pl. XIV B); a neolithic celt; and an inscribed terracotta sealing having letters in early Brahmi. Portions of other structures, perhaps representing Buddhist monasteries, were also exposed.

15. EXPLORATION IN DISTRICT SINGHBHUM.—In continuation of their previous work in the District (1961-62, p. 9), Shri D. Sen and Shri A.K. Ghosh of the Prehistory Section, Department of Anthropology, University of Calcutta, discovered many neolithic sites in the Sanjay valley near Sini and collected a large number of implements comprising celts, chisels, pounders, saddle-querns and ring-stones. The material of which the tools were made was mostly epidorite. Pottery, both hand-and wheel-made, ranging in colour from grey-black to brown-to-red, was found in association with these implements.

Besides, they discovered sites of Early and Middle Stone Ages along the Subarna-rekha and its tributaries at Gopalpur, Harindubri, Hirjihati, Jaganathpur, Murganhata, Thakurani and Tumangdungri. A large number of Early Stone Age tools were found *in situ* in gravels overlain by the clay. The gravel, which straigraphically is-post-Tertiary, was found to be intermixed with lateritic matrix. An important part of the study was the typological evolution of bifaces in the gravel-deposit from its lower to the upper horizon. The presence of pebble-tools was markedly conspicuous. The overlying clay contained a flake-blade industry of the Middle Stone Age. Microliths, both of the geometric and non-geometric varieties (probably evolved from the preceding industry), were also obtained from the upper horizon of this deposit. The geometric types were found to be retouched by secondary working.

The area was also explored by Dr. S.R. Das of the Department of Archaeology, University of Calcutta, who collected handaxes, ovates and scrapers from the Patkum estate locality.

GUJARAT

16. EXCAVATION AT LOTHAL, DISTRICT AHMADABAD.—The concluding season of excavation at Lothal, under Shri S.R. Rao of the Northern Circle of the Survey, exposed on the northern fringes of the mound a 12-80-m. long brick wall (pl. XV) intended to protect the town from the floods. It was observed that this wall had been built in Phase II over the remnants of an earlier mud-bund. Both in construction and size, it closely resembled the embankment-walls of the dock. Besides, the original flow-channel of the nullah running into the dockyard was also established. Among noteworthy finds obtained from the present excavation mention may be made of a terracotta bull (pl. XVI A) and five seals (pl. XVI B, C and D).

As a result of the excavation it is now clear that ships used to enter the dock from the river flowing on the western margin of the town through a nullah or branch of the river washing the northern margin of the site.

17. EXCAVATION AT DWARKA, DISTRICT JAMNAGAR.—An excavation, jointly organized by the Department of Archaeology, Government of Gujarat, and the Deccan College Post-graduate and Research Institute, Poona, respectively under Shri J.M. Nanavati and Professor H.D. Sankalia, was undertaken at Dwarka, the famous pilgrim-centre on the west coast of Kathiawar. Three Periods were brought to light. Period I indicated the use of iron and fine pottery some of which was also painted. A thick deposit of sand covered the occupation of Period I. The settlement of Period II, which was of a flimsy nature, showed the use of the Red Polished Ware and the occurrence of the Roman amphorae. After a lapse of some centuries, represented by a deposit of sand, the third settlement came into being. This was the earliest phase of the temple-city {*circa* seventh century A.D.). Fragments of wall-mouldings and finials were found in the relative strata. The excavation thus threw light on the theory concerning the submergence of Dwarka which, according to the present evidence, occurred first in about the second century B.C. A Carbon-14 date, from a sample belonging to layer 3, comes to A.D. 1630±90 (TF-173, calculated at 5730 years as half-life value).

18. EXPLORATION IN DISTRICT RAJKOT.—A stretch of the Bhadar around Rojdi was explored, under the general direction of Professor H.D. Sankalia, by Dr. Z.D. Ansari of the Deccan College Post-graduate and Research Institute, Poona, and Shri J.M. Nanavati

of the Department of Archaeology, Government of Gujarat. Tools of the Early and Middle Stone Ages were recovered respectively from the lower and upper gravels, the former category being reported for the first time from Kathiawar.

19. EXCAVATION AT ROJDI, DISTRICT RAJKOT.—A renewed excavation at Rojdi (1958-59, p. 19) by the Department of Archaeology, Government of Gujarat, under Shri J.M. Nanavati, assisted by Shri M.A. Dhaky, broadly confirmed the already-established sequence. Period I provided a sequence of two Phases (pl. XVII): Phase A was purely Harappan, while Phase B showed links with Prabhas.

In Phase A mud-platform was found to support a succession of seven lime-floorings alternated with mud-ramming, the lower three of which showed signs of intense burning. The ceramics comprised red, buff, coarse-corrugated, reserved-slipped and micaceous pink wares. Associated finds included microlithic blades of jasper and chalcedony and beads of shell, carnelian, steatite and faience.

Sub-phase B reflected the material prosperity and expansion of the settlement. The ceramics of the preceding Sub-phase, such as buff, coarse-corrugated and micaceous pink wares, continued. A few dishes in the typical Indus forms with scarlet slip recalled the Lustrous Red Ware. A fragment of the Prabhas Ware and two sherds of cream-slipped ware with paintings in black and brown are worth mentioning. Two Carbon-14 dates from this Sub-phase give a range of 1970± 115 and 1745 ± 105 B.C. (TF-200 and TF-199 respectively, calculated at 5730 as half-life value).

Periods II and III belonged respectively to the early historical and medieval periods.

20. EXCAVATION AT DEVNIMORI, DISTRICT SABAR-KANTHA.—The fourth season of excavation at Devnimori, by Maharaja Sayajirao University of Baroda, under Dr. R.N. Mehta, furnished valuable information about the construction of the *stupa.* The spherical drum was found to have been constructed by arranging the horizontal courses in volutes, in the centre of which, about 2.13 m. from the top, was found a figure of Buddha in *dhyana-mudra* facing east. About 3 -65 m. from the top was found an inscribed stone reliquary (pl. XIX B) within an earthen pot (pl. XIX A). The inscription on the lid gave the *Pratitya-samutpada* text, while that on the body recorded the names of the persons responsible for and the year 127 of the Kathika era as the date of the building of the *stupa.* Although the era mentioned is new, it has to be equated to the Chedi era; Rudrasena in whose time the construction took place, was thus the third ruler of that name in the Kshatrapa dynasty. Within the reliquary was a circular casket (pl. XIX C), which in turn contained two silk bags, a small gold bottle, pieces of wood, etc. At a depth of about 7-31 m. from the top and in the centre of the *stupa* was a platform with offsets (pl. XVIII A), below which was a globular pot containing eight silver coins of the Kshatrapa period', a gold leaf and fragments of hollow cylindrical objects of blue glass. At a further depth of 3 m., eight terracotta images of Buddha in *dhyana-mudra* (pl. XVIII B) were dis covered. About 11-88 m. from the top and 1-52 from the location of the Buddha images was discovered another casket containing ash and earth, but without any inscription. Below the casket was a yellow *kankar-deposit*, spread perhaps for the construction of the *stupa.* The present excavation also revealed interesting details about the *viharas* and the minor *stupas* around the main *stupa.* Besides, remains of a small brick temple below a *linga* to the west of the main *stupa* were also uncovered.

21. ; EXPLORATION IN DISTRICT SURENDRANAGAR.—The Department of Archaeo logy, Government of Gujarat, under Shri J.M. Nanavati, explored the valley of the river Demi and located Harappan sites at Bhutakotada and Khanpur and early historical

site at Khorana. At Vallabhipura; besides the Red Polished Ware, a fragment of Harappan pottery was found.

JAMMU AND KASHMIR

22. EXPLORATION IN DISTRICT ANANTNAG.—With a view to finding the geographical extent of the Northern Neolithic Culture, identified at Burzahom, Shri Sardari Lai and Shri R.K. Pant of the Frontier Circle of the Survey explored the valley of the Jhelum river from Anantnag to Pampur, a distance of, about 48 km., and located nine sites, Begagund, Gofkral, Hariparigom, Jayadevi-Udar, Olchibag, Pampur, Panzgom, Sombur and Thajiwor, all with a neolithic assemblage closely similar to that revealed at Burzahom. Dwelling-pits were also observed at two of these sites, viz. Gofkral (pl. XXI A), and Olchibag and also at Sempur (ancient Simhapura). The surface-collection from the sites included mace-heads (pl. XXI B), celts (pl: XXII A), gritty red ware with Or with out mat-impressions (pl. XXII B) and burnished and grey wares.

Out of the nine sites mentioned above, menhirs of the Burzahom type were found at Begagund, Gofkral, Hariparigom (pl. XX) and Pampur.

23. EXPLORATION IN DISTRICT JAMMU.—The. Frontier Circle of the Survey, under Shri T. N. Khazanchi, in continuation of the previous year's exploration in the District (1961-62, p. 16) located about sixteen sites yielding material belonging to the historical and medieval periods. These sites could be grouped into three categories: (i): early historical—Akhnur yielding pottery of the early Christian era represented by the sprinkler and bowl; (ii) late historical- Ambaran, Bahor, Dalpat, Kat, Pambarwan and Sauli-Chak, yielding the bowl and lid and typical Gupta terracottas; and (Hi) medieval—Ambi, Bamal, Bandwal, Kurora,; Lehrian, Man-Chak, Mandiala and Ratti-Danda, yielding stamped and glazed pottery.

24. EXCAVATION AT, BURZAHQM, , DISTRICT SRINAGAR.—The resumed excavation (1961-62, p. 17) at Burzahom, under Shri T.N. Khazanchi. of the- Frontier Circle of the Survey, laid bare structures of Phase II of the occupation;. These included mud-platforms (pl. XXIII A) with partitions and storage-pits and house-floors with post-holes (pls. XXIII B and XXIV B). suggestive of timber superstructures.; Successive deposits of burnt material over the floors testified to the incidence of fire, at various levels of the occupation. A rectangular structure, formed by upright slabs (pl. XXIV A), was also exposed in the upper levels of Phase II.Of unusual interest, however, were the burials, of which thirteen, eight human and five animal, were recorded within the habitation-area; itself. Of human burials, five belonged to Phase II and three to Phase III, and of animals, three to Phase II and two to Phase III. No burials were found in Phase I. A noteworthy feature of the human burials of Phase II was the use pf red ochre on the bones (pl. XXVI A). The pits were generally circular or oval on plan and in most of the cases narrow at the top and wide at the base, the inner sides being often plastered with lime. Four of the human skeletons found were buried in a crouching position. The burials showed both primary and secondary interments, the former containing extended articulated skeletons (pl. XXV) and the latter . only selected bones. Except in a few; cases no grave-furniture was noticed in these burials.; On the other hand, pet animals or their bones were sometimes deposited with the human skeletal material. Evidence of trepanning showing, seven finished and four unfinished circular holes on the skull was present in one, of the, burials of Phase II. The animal-burials : also showed; both articulated

and incomplete skeletons, the animals represented being the dog, wolf and ibex (pl. XXVI B and pl. XXVII B). The most interesting amongst these was a burial showing skeletal remains belonging to five wild dogs (pl. XXVII A) and antler's horn.

MADHYA PRADESH

25. EXPLORATION IN DISTRICTS BILASPUR, RAIGARH AND VIDISHA.—The Depart ment of Archaeology, University of Saugor, under Professor K.D. Bajpai, in the course of their exploration in these Districts, found a number of sculptures dating from the Sunga to the medieval period. In District Vidisha, ancient mounds were located at a number of places and sherds of the black-and-red ware and Red Polished Ware found.

26. EXCAVATION AT BILAWALI, DISTRICT DEWAS.—The Central Circle of the Survey, under Shri Vijayakanta Mishra, conducted a small-scale excavation at Bilawali, situated on the right bank of the Kalisindh river, 3 km. north-east of Dewas in the District of the same name. The excavation revealed a 7-m. deep deposit belonging to four cultural Periods (pl. XXVIII).

Period I was characterized by the occurrence of the black-and-red, red-slipped and the vesiculated wares resembling those obtaining in Period I at Ujjain. The use of iron was attested from the very beginning of the occupation. Besides, beads, bone and terracotta objects were also found.

Period II was marked by the occurrence of the punch-marked coins and fragments of Mauryan polished stones. In addition, a few terracotta objects (pl. XXIX A), sheel bangles and copper and iron objects were also found.

Period III yielded pottery and other objects belonging to the early centuries of the Christian era, while Period IV produced material relating to the early medieval period (pl. XXIX B), including a Ganesa image in stone, similar to that found at Maheshwar.

27. EXPLORATION IN DISTRICTS EAST NIMAR, HOSHANGABAD AND JABALPUR.— Dr. G.J. Wainwright and Shri S.C. Malik surveyed the Narmada upstream from Maheshwar to Jabalpur and confirmed the three-cycle hypothesis of De Terra and Patterson, the sequence of deposits from bottom upwards being : large-sized pebble-gravel, rarely observed except at Hoshangabad; red sandy clay, representing the last part of the first cycle; medium-sized pebble-gravel containing Middle Stone Age tools with fossils; finer gravel with thin flake-blade and scraper industry ; and alluvium. The Early Stone Age tools recovered from the area were essentially rolled. Stratigraphically, there is only one site, on the confluence of the river Umar and the Narmada, which showed a disconformity between the Lower and the Upper groups of De Terra and Patterson by the presence of sandstone blocks. A clear distinction of two gravels of the two groups was hardly ever seen. The plastered third group gravel is fairly consistent as also the medium-sized gravel.

28. EXPLORATION IN DISTRICT JABALPUR.—Shri C.B. Trivedi of the Central Circle of the Survey located Middle Stone Age sites at Dhimarkhera, Divri-Siuni and Tilman in the valleys of the Chhoti-Mahanadi and Mauri-nadi in District Jabalpur. The tools, mostly of chert and jasper, were obtained from the yellowish clay overlying the dis integrated trap.

Microliths consisting of parallel-sided blades, points and cores were found at Bhopar, Kherni, Pahaura, Pararia, Parsel, Paundi-khurd and Sagwan in Tahsil Sihora.

29. EXPLORATION IN DISTRICTS JABALPUR, SHAHDOL AND SIDHI.—Shri Nisar Ahmad of the Deccan College Post-graduate and Research Institute, Poona, surveyed stretches of the river Hiruna-nadi, Mahan-nadi and Son with its tributaries in Districts Jabalpur, Shahdol and Sidhi and discovered many sites of Early, Middle and Late Stone Ages.

In District Jabalpur, two good sections were recorded very near Katni town, along the river of the same name. Both of these showed the sequence (from bottom upwards) of cemented gravel and silt.

In District Shahdol, tools variously of the Middle and the Early Stone Ages were obtained from Annuppur, Harha, Markandeya, Ruhania and Singrali. In the vicinity of Lalpur, tools of Middle and Late Stone Ages were found. On the left bank of the Umrar-nadi near Umaria town, a section showing (from bottom upwards) bed-rock, gravel and silt was noticed.

In District Sidhi, tools of Early and Middle Stone Ages were found at Akaori, Baboari, Bardi, Bargama, Barhai, Beeche, Chandreha, Dhabaoli, Ghitora, Hinoti, Khaira, Khootali, Khairpur, Laowar, Nakjhur, Rajghat, Ramanagar, Rampur and Sihawal, the last-mentioned being the most notable.

30. EXPLORATION IN DISTRICT NARSINGHPUR.—Professor H.D. Sankalia and Shri S.G. Supekar of the Deccan College Post-graduate and Research Institute, Poona, surveyed stretches of the Narmada and its tributaries in Districts Hoshangabad and Narsinghpur and identified three distinct terraces at Sagunghat on the Narmada. The earlier two yielded respectively Early and Middle Stone Age tools. At Mahadeo-Piparia, about 24 km. to the north of Narsinghpur, they laid a cutting in the basal conglomerate-bed of the Narmada river with a view to ascertaining if the gravel contained only Early Abbevillean tools as previously reported by another investigator. In the cutting several implements including cores and flakes were recovered.

31. EXCAVATION AT ERAN, DISTRICT SAGAR.—In continuation of the previous year's work (1961-62, p. 24), the University of Saugor, under Professor K. D. Bajpai, brought to light further details of the mud-rampart partially exposed last year.

The rampart (pl. XXX), 6-40 m. in extant height, was found to have been 47 m. in basal width. Built of black and yellow clay, the core-material contained pottery of the same series as that of the chalcolithic occupation. Besides, a fragmentary copper celt (pl. XXXII B), microliths (pl. XXXIII B) and beads of shell, paste, and semiprecious stones, etc., were also obtained from these deposits. From the absence in the late phase of the chalcolithic occupation, it is inferred that the rampart was built some time in the latter half of Period I. The rampart remained in use also in Period II with a thin habitation on the outside. The fortified settlement was girdled on three sides by the Bina river and on the fourth, being south, a moat, 36.57 m. in width and 5.28 m. in depth. The moat along with the rampart went into disuse in Period III.

Other cuttings in the habitation-area yielded further details about the cultural equipment of the various Periods.

Period I was found to have six structural phases; the floors were made of rammed clay mixed with *kankar*. Among the finds mention may be made of: black-painted red ware (pl. XXXI); white-painted black-and red-ware (pl. XXXII A); grey ware painted in black (pl. XXXIII A); human (pl. XXXIV A) and animal (pl. XXXIV B) figurines; terracotta bangles and a wheel; and a fragmentary copper celt (pl. XXXII B).

Period II was divided into Sub-periods II A and II B. The principal components of Sub-period II A comprised iron and black-and-red ware. The latter was different both in shape and fabric from that obtained from Period I. Except a few sherds

showing relationship with the white-painted black-and-red ware, none of the ceramics of Period I continued in Period II. Sub-period II B witnessed the gradual disappearance of the black-and-red ware and the use of a dominant red ware, only occasionally painted in black. Other finds of the Sub-period included: *karshapana* coins; terracotta human (pl. XXXIV A) and animal figurines (pl. XXXIV B); iron objects; beads; shell bangles; and bone objects (pl. XXXV A). Tile-fragments, indicative of their use as roofing-material were also obtained.

Period III was marked by the occurrence of the Red Polished Ware and a black-painted red ware. Coins of the Western Kshatrapas and Nagas, as also of silver and copper punch-marked variety, a terracotta inscribed seal (pl. XXXV B) and beads, etc., formed the miscellany of other finds.

Period IV, which followed after a lapse of time belonged to the late medieval period, as testified by the presence of medieval coins and those of former Princely states, glass and lacquer bangles and a Vishnu image.

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32. EXCAVATION AT GUDIYAM DISTRICT CHINGLEPUT.—Dr. K.-D. Banerjee of the Prehistory Branch of the Survey undertook excavation of a rock-shelter at Gudiyam (pl. XXXVI) in Taluk Trivellore. Although the cave-floor still remained to be reached, the excavated sequence (pl. XXXVII) revealed a post-Acheulian (Burkitt's Series II) industry imperceptibly developing into a microlithic one without any hiatus. The special interest of this work lies in its bearing on the interrelationship of these two industries, already hinted at in the Singhbhum and Bankura regions.

Further exploration in the area revealed sixteen more rock-shelters, two of them yielding tools on the surface.

33. EXCAVATION AT KANCHIPURAM, DISTRICT CHINGLEPUT.—Dr. R. Subrahmanyam of the Southern Circle of the Survey conducted a trial-excavation in the premises of H.H. the Sankaracharya of Kamakoti-Math at Kanchipuram. The excavation revealed a 4-80-m. deep deposit belonging to two cultural Periods with sub-divisions Sub-period I A yielded the megalithic Black-and-red Ware, besides the associated red and black-slipped wares. The antiquity of Kanchipuram is thus taken back at least to the late phase of the megalithic culture, if not earlier. From the upper half of the deposit were obtained sherds of the Rouletted Ware and amphorae in typical fabric. Nearly fifty conical amphorae were found in a broken condition, three being placed in a row (pl. XXXVIII A). Copper Satavahana coins, one of them clearly bearing the name Rudra Satakarni of *circa* second century A.D., were also found in these levels. Among the other notable finds from this Sub-period mention may be made of terracotta figurines (pls. XXXVIII B and XXXIX A) showing a cult-goddess, a royal head, folded hands of a lady in rhythmic dancing-pose, sturdy and graceful bulls, etc. The succeeding Sub-period IB coincided with the Pallava period (fourth to ninth century A.D.) as indicated by the relevant lead coins (pl. XXXIX B). The ceramic consisted of a bright.

Period II, medieval in time range, was characterized by a thick dull-red pottery and glass beads and bangles. A copper coin of Rajaraja Chola I (A.D. 980-1014) was found in the lower levels of this Period. The top 1-m. deposit related, however, to

34. EXPLORATION IN DISTRICT COIMBATORE.—Shri V.N. Srinivasa Desikan of the Southern Circle of the Survey, in the course of his exploration in the District, dis covered megalithic and cairn-circles at Elathur, Ikkarai, Irugalur, Karidoddam-palayam, Mottanur, Nambiyur, Pudupeerkadavu, Pungampalli, Semtipalayam, Thatha-palli, Vagampalayam and Varapalayam in Taluk Gobichettipalayam, and Kodangipala-yam, Mettubavi, Muthur, Panapalli, Sethiyakkapalayam, Sokkanur and Vagutham-palayam in Taluk Polachi. Port-holed cists were found by him at Chikkarasampalayam in the former Taluk and Kullakkapalayam and Periakalandai in the latter.

Exploring in collaboration with Shri K. V. Raman, Shri Desikan obtained the Russet-coated Painted Ware from three sites, Ikkarai-Negamam, Nathamedu - and Ukkaram, in Taluk Gobichettipalayam.

35. EXPLORATION IN DISTRICT NORTH ARCOT.—The Department of Ancient History and Archaeology, University of Madras, explored an ancient mound at Manda-Kolattur 11:26 km. from Polur on the Polur-Wandiwash road and found :the megalithic Black-and-red Ware and Russet-coated Painted Ware. A few dilapidated temples containing Tamil inscriptions of the Vijayanagara period were also located. .

36. EXPLORATION IN DISTRICT SALEM.—The Department of Ancient History and Archaeology, University of Madras, explored: (i); neolithic sites at Bargur in Taluk Krishnagiri, and Mulavi in Shevaroy hills near Yercaud; (ii) a megalithic site at Mookanur-Cheri on the Dharmapuri-Morappur road near Semmanhalli railway-station, most of the megaliths, however, being badly disturbed; and (hi) late Chola temples at Adaman-kottai and Hale-Dharampuri.

; 37. EXCAVATION AT KAVERIPATTANAM, DISTRICT THANJAVUR.-—The Southern Circle of the Survey, under Shri S.R. Rao, assisted by Shri K.V. Raman, conducted excavation at two places, Kilaiyur and Vellaiyan-Iruppu, around, Kaveripattanam,; the ancient port-capital of the early Cholas.

At Kilaiyur, a massive brick platform (pl. XL A), 18-28x7-62 m. in size, was brought to light. In one of the corners remnants of two wooden posts (pl. XL B), planted close to the brickwork, were noticed. The structure was built on natural sand and very likely represented a wharf in the backwaters where boats could be anchored to the wooden posts. The size of the bricks used conforms to that used at Nagarjunakonda during the Ikshvaku period. The megalithic Black-and-red Ware was found, in the contemporary deposits.

At Vellaiyan-Iruppu, the excavation exposed a 1-21-m. deep stratum belonging to the early medieval period *(circa* ninth-twelfth century A.D.). Four fragmentary brick walls and two platforms were laid bare at different levels indicating four phases of structural activity. The middle two phases can be dated to about the tenth-eleventh century A.D. as indicated by the copper coins of Rajaraja I (pl. XLI B). Among the interesting antiquities unearthed were two beautiful royal heads in typical Chola style, a terracotta pedestal for an image and torso of a dancing lady (pl. XLI A).

38. EXPL6RATION IN DISTRICT TIRUCHCHIRAPPALLI.—-The Department of Ancient History and Archaeology, University of Madras, explored some ancient sites at Manavasi, Mettu-Mahadanapuram, Nandankottai, Palajayankondacholapuram and Vallam-Nattamedu; all of them yielding the megalithic Black-and-red Ware: In addition, a temple of the Chola period with later Vijayanagara additions was also located at Manavasi.

39. EXCAVATION AT TIRUKKAMBULIYUR, DISTRICT TIRUCHCHIRAPPALLI.—The second season of excavation (1961-62, p. 28) at Tirukkambuliyur by the Department of Ancient History and Archaeology, University of Madras, while confirming the threefold sequence obtained last year, also brought to light two mud-brick structures (pl. XLII A) along with another interesting structure (pl. XLII B), built of four walls enclosing a room with a partition-wall running in the middle and projecting walls on the eastern and western ends. The inner face of the walls was plastered. The exact function of the latter structure, however, remains elusive. It could have served more appropriately as a granary. The cultural equipment of each Period was found to be the same as revealed last year.

Period I was characterized by the predominant use of the Russet-coated Painted Ware (pl. XLIII A), the megalithic Black-and-red Ware and the all-black ware. No structures were noticed in this period.

Period II was distinguished by the occurrence of a red-slipped ware, entirely absent in the preceding Period, and a waning Black-and-red Ware. Other finds included terracotta animal figurines, beads of paste, glass and semi-precious stones, glass and shell bangles, iron and copper objects and a few copper coins.

Period III was marked by the emergence of larger varieties of ill-fired coarse red pottery, both slipped and unslipped. Other finds comprised terracotta human and animal figurines (pl. XLIII B), including one showing hair-locks decorated in the Gandhara style, beads and copper and iron objects.

40. EXPLORATION IN DISTRICT TIRUNELVELI.—Dr. K. D. Banerjee of the Prehistory Branch of the Survey, assisted by Shri S.N. Raghunath, further explored the *teris* region in the District. Two parallel series of *teris* were found: one showing microlithic sites along the margin away from the sea and often along the lateral sides of the *teris* but never along the sea-side margin, and the other showing sites only along the margin away from the sea. Sites of the latter category, were, however, very few. In some cases the two series were found to be close to each other and may denote the successive retreats of the sea.

MAHARASHTRA

41. EXPLORATION IN DISTRICT AHMADNAGAR.—Professor H.D. Sankalia, Dr. G.G. Mujumdar and Shri S.N. Rajaguru of the Deccan College Post-graduate and Research Institute, Poona, located Middle Stone Age sites along the river Sina,at Ahmad nagar. Along with Shri Suresh Joshi, they examined the section near Bhambori on the river Karpra, about 19 km. from Ahmadnagar. Here again two deposits were noticed and a tool of the Early Stone Age was obtained.

42. EXPLORATION IN DISTRICTS AKOLA AND AMRAOTI.—Dr. (Mrs.) Shobhana Gokhale of the Deccan College Post-graduate and Research Institute, Poona, in the course of her exploration in District Akola, discovered medieval sculptures of Brahma, Parvati and Siva at Lakhpuri and of Krishna, Rama and Vishnu at Mana. She also found Kshatrapa coins at Akot. In District Amraoti she located a site yielding Middle Stone Age tools at Varud on the banks of the Chudamani river and early historical sites yielding black-and-red ware at Bhatkuli and Chamak. At Bhatkuli, Ellichpur and Varud she also found medieval sculptures.

43. EXPLORATION IN DISTRICT CHANDA.—In continuation of the previous year's work (1961-62, p. 30), Shri L. K. Srinivasan of the South-eastern Circle of the Survey explored a wider area in the valleys of the Godavari, Indravati, Wainganga and Wardha and discovered sites of Early and Middle Stone Ages. Some of the sites in the Wainganga valley yielded pebble-tools along with Acheulian handaxes. In the Wardha river-basin an extensive site between the village Sanapur and Padsa, showing an implement-bearing gravel-bed, exposed and eroded by the action of the river, yielded tools of Early and Middle Stone Ages. At Pardi on the north bank of the same river were picked up microliths in addition to the tools of Early and Middle Stone Ages. In the Wainganga basin he discovered pebble tools comprising choppers and early Acheulian handaxes at Bhatti and Usrala.

A large number of sites yielding Late Stone Age tools were found in areas characterized by hard lateritic bed covered over with reddish-brown sandy soil. The sites included Amboli, Balapur-Khurd, Chak-Bahmmi, Kirmiti, Lakhapur, Murpar and Nawkhala.

Megalithic stone circles were noticed at near Ranparsodi in Tahsil Brahmapuri and Jodholi and Umri in Tahsil Chanda. Besides, early rock-cut caves, scooped out of sandstone outcrops, were seen near Kunghara in Tahsil Brahmapuri. Three of these caves have a facade.

44. EXPLORATION IN DISTRICTS DHULIA AND JALGAON.—Continuing his previous work in the District (1961-62, p. 32), Shri S.A. Sali of the South-western Circle of the Survey explored the valley of the Kan in Taluk Sakri and, besides locating more sites of the Early and Middle Stone Ages, recorded at Badne a cliff-section showing gravels alternating with layers of clay or silt. From the second gravel he collected some rolled Acheulian handaxes and cleavers.

Sites with Middle Stone Age tools *in situ* were located at Degaon, Ghodada, Kasare, Malpur, Marigan, Nagpur, Navadne, Rohone, Savne, Shenpur and Sheoge.

Sites with Late Stone Age tools *in situ* were located at Dapur, Deshirvadi, Kokle, Malanjan, Nagpur, Navadne and Rohone.

Chalcolithic sites with microliths and black-painted red and burnished grey wares were discovered at Balhave, Ghodada, Karda, Pargaon, Pir, Samode and Surpan.

In District Jalgaon, he discovered sites yielding microliths at Jalgaon and Vakad and a chalcolithic site at Neri-Budrukh.

45. EXPLORATION IN DISTRICTS POONA, SANGLI AND SATARA.—Dr. G.G. Mujumdar and Shri S.N. Rajaguru of the Deccan College Post-graduate and Research Institute, Poona, surveyed the Ghod river near Chandoli in District Poona and identified gravels of the Middle Stone Age at a couple of places on the right bank of the river. This gravel was seen resting against the reddish yellow *kankarized* silt of the earlier phase, the gravels of the Early Stone Age being not encountered in the explored area. The two Early Stone Age choppers of dolerite and a number of Middle Stone Age tools were collected from the loose gravel in the bed of the river. The top of the silt, which is about llm. above the present water-level, has weathered into black soil with a thickness varying from 1 to l-5m. Over this black soil came the chalcolithic habitation at Chandoli. Scattered portions of what appeared to be an animal-fossil, probably an elephant-tusk, were also collected from the modern silt deposited in a rock-pocket on the right bank between Chandoli and Khadki. The fossil was found to be fairly mineralized. Another fossil-bone, probably a scapula of some animal, was recovered *in situ* from the well-cemented

fine-grained gravel on the left bank of the river near Kalamb, 69 km. from Poona on the Poona-Nasik road. From the nature of their fossilization and associations it appears that both these fossils belong to Late Middle or Upper Pleistocene levels.

In Poona itself, Professor H.D. Sankalia further investigated the sections of the Mutha river and identified two cycles of deposition and erosion belonging to the Early and Middle Stone Ages respectively. Tools like chopper-chopping tools were also discovered near Dattawadi. These were made of dolerite. An ancient site of the central and western Indian chalcolithic complex was located at Mingdewadi, 72 km. from Poona and at Sardewadi on the Poona-Sholapur road.

Shri R.S. Pappu of the same Institute studied some sections of the Krishna river in Districts Sangli and Satara and at Asagaon, 16 km. from the source of the river, in the latter District,: and recorded the following two-phase sequence, from bottom upwards: bed-rock of Deccan trap; coarse, well-cemented pebbly gravel I, made up of pebbles of Deccan trap and chalcedony, agate, etc.; reddish-brown silt I; fine-to-medium gravel II; red silt II; and recent soil.

In District Sangli, tools of Middle and Late Stone Ages were collected at Ankali, Ankhalkop, Arjunwad, Bahe, Borgaon, Brahmna, Digraj, Haripur, Khed, Mahaisal, Sangli, Takari and Walwa.

In District Satara, some Early Stone Age tools like choppers and a few flakes were collected at Limb, Mahuli, Mardha, Pachwad, and Songaon in a loose gravel spread on the bed of the river. Sites with Middle and Late Stone Age tools were located at Chinchner, Dhamnari, Govara, Karad, Kashil, Koparde, Limb, Mahuli, Targaon, Tembu, Umbraj and Venegaon.

46. EXPLORATION IN DISTRICTS BELLARY, BIJAPUR, DHARWAR AND RAICHUR.—Shri M.S. Nagarajarao of the Deccan College Post-graduate and Research Institute, Poona, surveyed the valley of the Tungabhadra in Districts Bellary; Bijapur, Dharwar and Raichur and located a large number of sites yielding the assemblage of the Southern Neolithic Culture, sometimes with the addition of microliths and a black-painted red ware. Of the explored sites belonging to.the neolithic-chalcolithic assemblage mention may be made of: Belagodanahalu, Lakshmipur and Tekkalakota in District Bellary; Hadargeri, Hallur and Kunbev in District Dharwar; and Anegondi (Chikrampur), Nandihalli and Yabbalu in District Raichur. The sites at Chikrampur and Tekkalakota are situated on terraces at different levels of the hillocks.

Megalithic cairn-circles were also noticed at Hallur and Sanapur in Taluk Koppal of District Raichur. The megalithic structures at the & latter site show passage in front of the stone circles as an additional feature.

Sites of the early historical period were located at: Bagevadi, Haccholli, Nadivi and Udegollam in District Bellary Shirnahalli in District Dharwar; and Kankargol, Mushtoor and Ullenoor in District Raichur. All of them are' situated on the banks, of the Tunga

Shri P.N. Babu of the South-western Circle of the Survey, in course of his exploration in District Bijapur, found early historical sites yielding the Black-and-red Ware and the Russet-coated Painted Ware at Devalgi and Bidarkundi, the former also containing a Chalukyan temple.: He also collected microliths at Banosi, Deur, Hallur, Kop and Sirol. The implements included: irregular and fluted cores and parallel-sided blades; only a few of which were found to be retouched.

Shri Nagarajarao of the South-western Circle of the Survey, in course of his exploration in the District, discovered megalithic monuments at Bhaira, Hallur, Nagavada, Tadakanhalli and Vanapada. Besides, he also collected pottery of the megali-thic Black-and-red Ware from these sites. Temples with inscriptions and sculptures belonging to the Later Chalukyas of Kalyani were also noticed at Nagavada and Paradakeri.

Professor M. Seshadri of the Department of Archaeology, Government of Mysore, located an Early Stone Age site near the village Vardi in Taluk Hangal in the valley of the Varada, a tributary of the Tungabhadra. Near Hirebasur in the same Taluk an early historical mound yielding the Russet-coated Painted Ware was located.

47. EXPLORATION IN DISTRICT MYSORE.—Shri C. Krishnamurti of the Southern Circle of the Survey located sites yielding the Russet-coated Painted Ware at Bogganapur, Gudulupet and Kelsur and cairn-circles at Belaguppa, Belavadi, Bendravadi, Bogganapura, Gidagan, Akote, Huradahalli, Huthur, Kabbaghalli, Mangala, Padaguru, Paramapura, Rangupura, Sigavadi, Sivapura, Somhalli, Upayara and Yelachetti—all in Taluk Gundlupet.

ORISSA

48. EXCAVATION AT DHAULI, DISTRICT PURL—The Department of Museums and Archaeology, Government of Orissa, under Shri K.N. Mohapatra, undertook excavation at the foot of the Dhauli hills and exposed the ruins of an old temple and a well, ascribable to *circa* seventh century A.D.

PANJAB

49. EXPLORATION IN DISTRICTS AMBALA AND LUDHIANA.—Shri Suraj Bhan Chowdhary of the Department of Ancient History and Culture, University of Panjab, Chandigarh, in course of his exploration in District Ambala located : (i) Harappan and late Harappan sites at Kurrara-Kurrari and Manikpur-Sharif in Tahsil Kharar, and Aranauli, Bara-Samana and Kainor in Tahsil Rupar; and (ii) Painted Grey Ware sites at Chadiala-Khanpur, and Nagiari in Tahsil Kharar, and Arnauli, Patharheri and Singh in Tahsil Rupar.

A Buddha head in spotted red sandstone and a terracotta bust of a male, both of the Kushan period, were discovered at Sanghol, locally known as Uncha-Pind, in District Ludhiana. Other finds from the site included : Kushan and Huna coins; a fragmentary panel showing a seated Jina figure assignable to the medieval period and fine grey ware of the early historical period.

50. EXPLORATION IN DISTRICT AMRITSAR.—Shri H. K. Narain of the North-western Circle of the Survey discovered the Painted Grey Ware at Marari-Khurd and grey ware and black-slipped ware at Basar-ke-Gillan, Fatehpur, Sohian-Kalan, Taragarh, Vadala-Bhittewadh and Vadala-Viram.

51. EXPLORATION IN DISTRICT ROHTAK.—Shri R. P. Das of the North-western Circle of the Survey, during the course of his exploration, found a Gupta terracotta plaque (pl. XLIV A) and a head of a later period from Khokhra-Kot, already famous for the remains of the early historical period.

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surface as also sporadically in the lower levels fluted cores and flakes (pl. **XLVI A)** were found. The fortification, built in early centuries of the Christian era, possibly coinciding with the advent of the Guptas. The incidence of the Northern Black Polished Ware at this site was all but negligible, since no sherd was found in the excavation, although known associated wares were met with in some measure.

57. EXCAVATION AT KALIBANGAN, DISTRICT GANGANAGAR.—With a view to imparting field-training to its students, the School of Archaeology in collaboration with the Excavations Branch, both of the Survey, and respectively under Shri B.B. Lai and Shri B.K. Thapar, continued (1961-62, p. 39) excavation at Kalibangan. Besides, this season's work had three other objectives to realize: firstly to elaborate the assemblage of the already-recognized pre-Harappan culture; secondly, to confirm the existence or otherwise of a rampart at the smaller of the two mounds and to obtain fuller details about its complete outline and other structural features; and thirdly, to lay bare a part of the Harappan township by horizontal digging. For the first two formidable objectives, besides extending the previous year's cuttings, fresh trenches were laid out along the eastern, southern and western margins of KLB-1, while for the third, a 50x40 m. area was taken up at KLB-2, at a place where the alignment of an arterial thoroughfare had already been established last year.

The excavation confirmed the twofold sequence at KLB-1 and revealed that the pre-Harappan deposits (Period I) at that site extended to an average height of 1 -60 m. above the natural alluvium. The strata comprising this thickness showed five structural phases, of which the upper three were largely re-builds of the same plan (pls. XLVIII and XLIX B). The houses were made of mud-bricks of the size of 30 X 20 X10 cm., baked-bricks, except for a few stray wedge-shaped examples, being not current. Interesting evidence regarding cooking-practices was revealed by a series of ovens found in a room belonging to the middle phase of the occupation. The ovens were both of the overground (pl. L A) and underground (pl. L B) varieties. The latter had mud-plastered walls with a slight overhang near the mouth, and the former, also built of mud-walls with bridged side-opening for feeding fuel, etc., seem to have been periodically plastered.

The pottery of this Period (figs. 2 to 9; pls. LIX and LX A) was characterized by six fabrics, labelled for convenience as Fabrics A to F.

Fabric A (figs. 2 and 3) was marked by an individuality which isolated it from the other fabrics. The vessels of this fabric, although made on wheel, were carelessly potted, betraying unskilled handling with tell-tale traces of irregular striations. Comparatively light and thin in section and red to pinkish in colour, most of the vessels were painted-in black, combined at times with white (hatched in the drawings), over a dull-red surface, the field of decoration being confined to the portion above the girth. The design-elements, drawn in free style, included: horizontal bands, sometimes as thick as the height of the neck (fig. 2, *B)* and loops fringed below or enclosed by horizontal bands (figs. 2, *A, B* and K); criss-cross (fig.2, C); grouped converging lines enclosing opposed triangles (fig. 2, *D)* or rhombs (fig. 2, *E)*; latticed triangles (fig. 2, *J)* or ladders enclosing open opposed triangles (fig. 2, *H);* pendant latticed leaves bordered above by horizontal bands (fig. 2, *L);* verticals enclosing chain (fig. 2, *F);* lenticulars with multiple horizontals bordered above and below with thick bands (fig. 2, *M);* and segments or scallops with fillers (fig. 2, U and Z); and moustache-like bifold scroll within wavy verticals (fig. 2, *W)* or conifers (fig. 2, Y). A characteristic design, however, consisted of symmetrically-joined semi-circles with intervening space giving the effect of pendant concave-sided triangles (fig. 2, *N-T),*

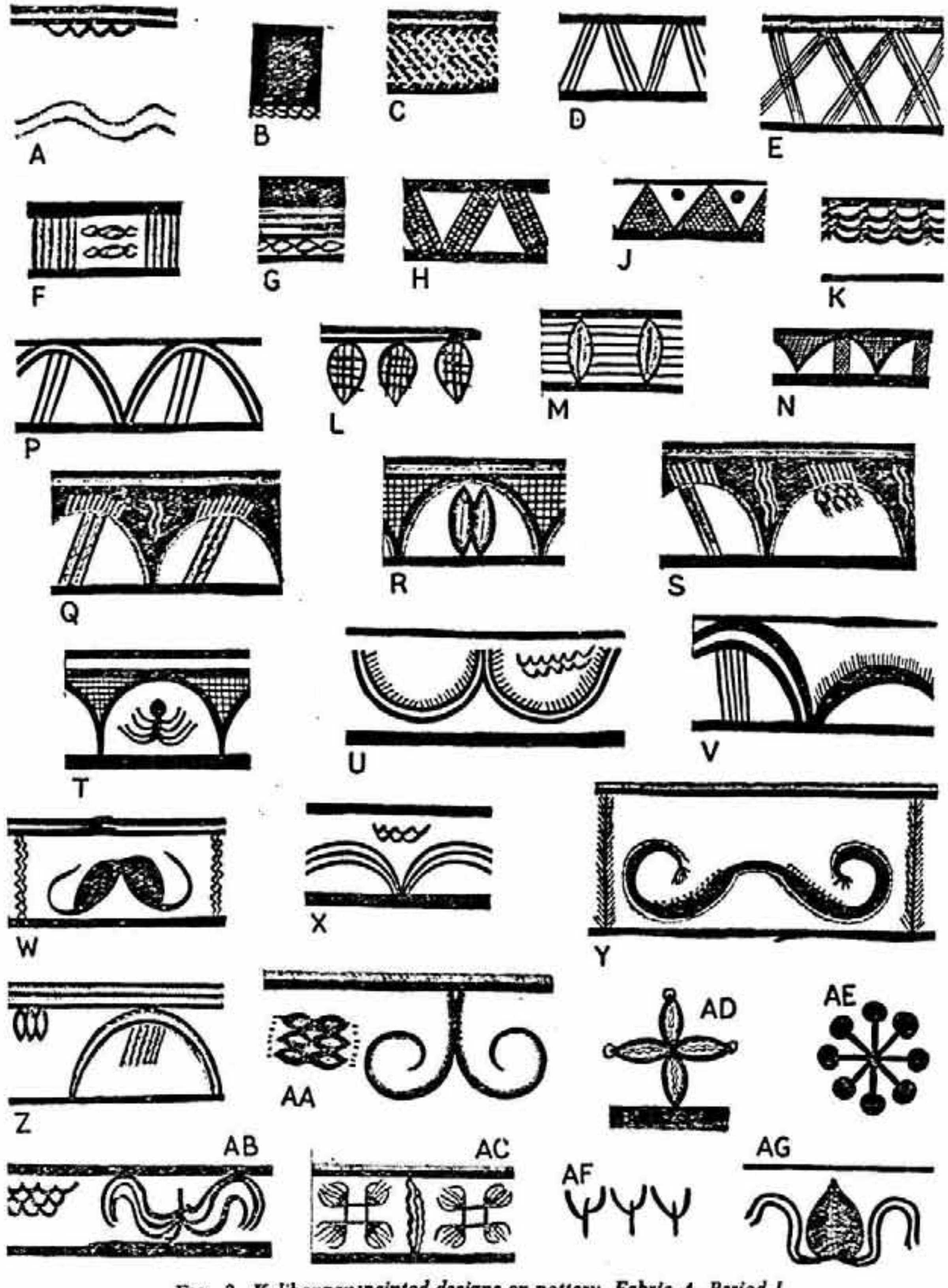


FIG. 2. *Kalibangan:painted designs on pottery, Fabric A, Period I*

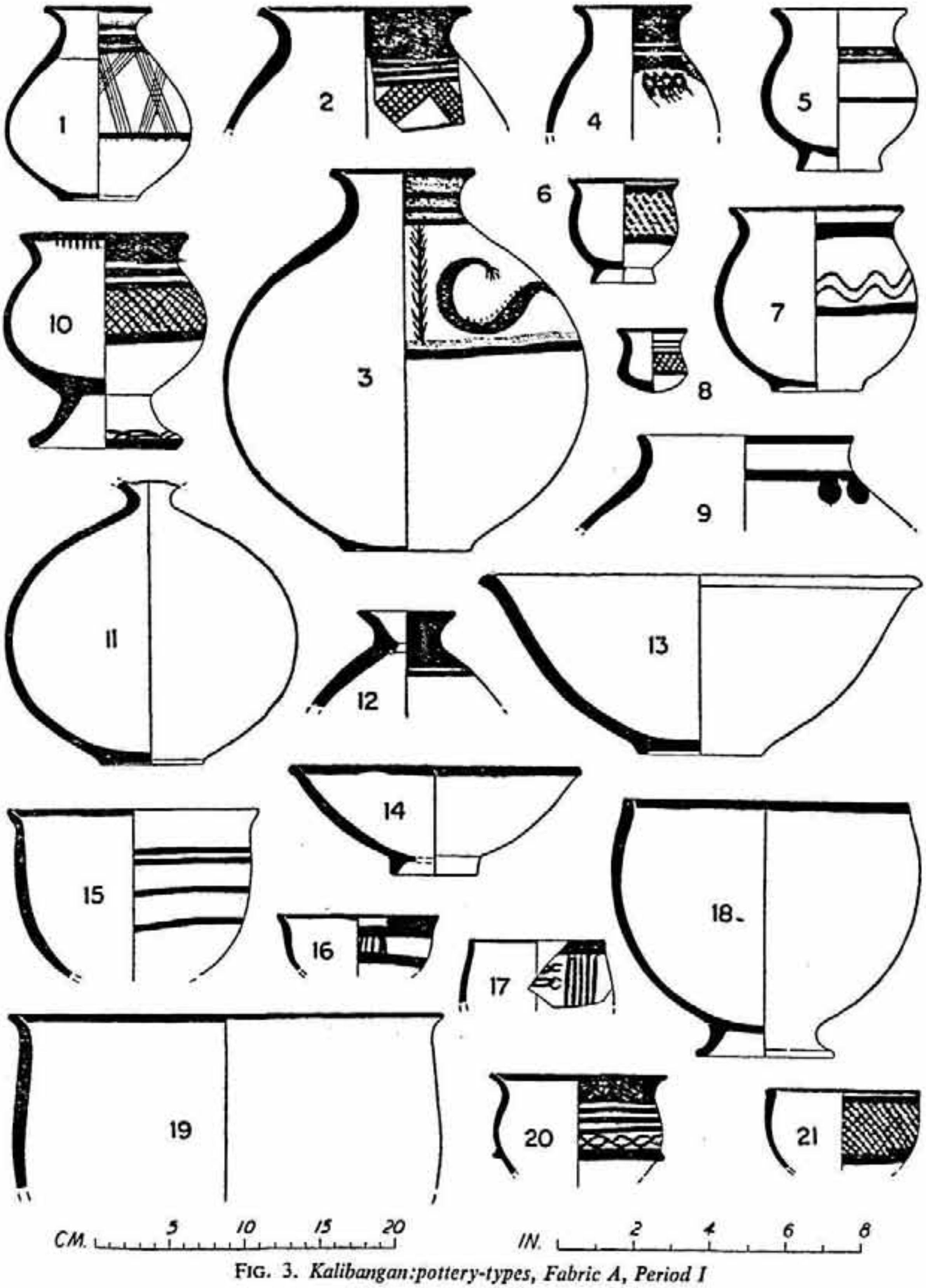


FIG. 3. *Kalibangan:pottery-types, Fabric A, Period I*

the triangles and the enclosed semi-circles being decorated with different patterns including criss-cross, oblique or wavy lines, ladders, lenticulars, spiders, etc. As fillers were used such motifs as : radiating lines ending in solid discs (fig. *2, AE)*; four-petalled flowers (fig. *2, AD);* cacti-like plants (fig. 2, *AF);* and squares with radiating triangles at the ends (fig. 2, *AC).* The range of shapes was, however, very limited, and comprised vases with out turned or out curved rims and disc-or ring-bases (fig. 3, 1-12) and bowls with tapering (fig. 3, 13 and 14) or convex (fig. 3, 15-21) sides. Of unusual interest were the pedestal-base (fig. 3,10) and the hole-mouth (fig. 3,12) among the vase-forms and the cordoned profile (fig. 3, 20) in the bowls.

Fabric B (fig. 4) was distinguished primarily by its paste-texture and surface-treatment. The vessels of this fabric were carefully potted on the wheel and were treated with a red slip up to the shoulder, the slipped area being further diversified by black-painted horizontal bands of varying thickness. The remaining surface of the vessels (excepting perhaps the base) was covered with a thin clayey solution, often mixed with sand, and while wet, roughened by horizontal or wavy combings (fig. 4, *SA)* or by tortoise-shell (?) or dendritic impressions (fig. 4, *SB).* Over this rusticated surface, naturalistic designs, floral, animal and bird, (stag, ibex, bull, scorpion, duck, etc.),were painted in black, combined at times with the ancillary white (hatched in the drawings). Only one shape, viz. a globular jar with variant rim-forms, was represented in this fabric, of which the function is thus delimited.

Fabric C (fig. 5) was marked by a finer-textured paste and allover smooth-slipped surface in shades of red and plum or purple-red. The repertory of painted designs, which were essentially in black, included, besides the recurrent carefully-ruled horizontal bands or loops or criss-cross, borders of plant (fig. 5, *A),* scale (fig. 5, *B* and C), metopes (fig. 5, *E),* latticed loops or pendant triangles (fig. 5, *F-J).* Of special interest, however, were the panelling of palm-tree with a bird by criss-cross (fig. 5, *G)* and the butterfly or double-axe motif, wavy verticals (fig. 5, *H)* and the Indus scales (fig. 5, *K).* The shapes represented in this fabric comprised globular and ovoid vases with disc-bases (fig. 5, 1-10), lids (fig. 5,11), straight-sided bowls (fig. 5, 12), and dishes and offering stands (fig. 5,13-18), including a noteworthy form with an extra-flared lip (fig. 5, 16).

Fabric D (figs. 6 and 7) was characterized by vessels with thick sturdy section and slipped red surface. Common shapes included heavy jars (fig. 6,1-7) including the one with an accentuated flange round the neck (fig. 6, 6); bowls (fig. 6, 10-12) and basins or troughs (fig. 6,13 and fig. 7,14-17). The last-named, however, was the most characteristic of this fabric. The basins with a ring-base (fig. 7, 14 and 15; pl. LX A) were decorated internally on the sides with sharp ridged incisions of varying patterns (fig. 7, A-F) often bordered by wavy lines and on the outsides with single or multiple rows of cord impressions (fig. 7,14). The incised patterns were executed by a reed-fragment when the paste was plastic or yielding as evidenced by the raised or burred edges along the incised lines. The decoration on bowls (fig. 6, 10-12) and the flat-bottomed basins (fig. 7, 17), however, consisted of grouped wavy lines, doubtlessly produced by the employment of multiple-pronged tool held with a pencil grasp. Besides, black-painted horizontal bands and loops were not infrequent in this fabric.

Fabric E (fig. 8) comprised vessels with a buff or reddish buff slip. Common shapes included: large-and medium-sized jars (fig. 8, 1-9) including those with a hole-mouth (fig. 8, 6) or a flange round the rim (fig. 8, 9); lids (fig. 8,10 and 11); bowls (fig. 8,15 and 16); and offering-stands and dishes (fig. 8,12,14, 17 and 19-21) including a small chalice (fig. 8, 13). The painted decoration (in black sometimes tending to purplish and occasionally white pigment) consisted of: the ubiquitous horizontal bands (fig. 8, *G);*

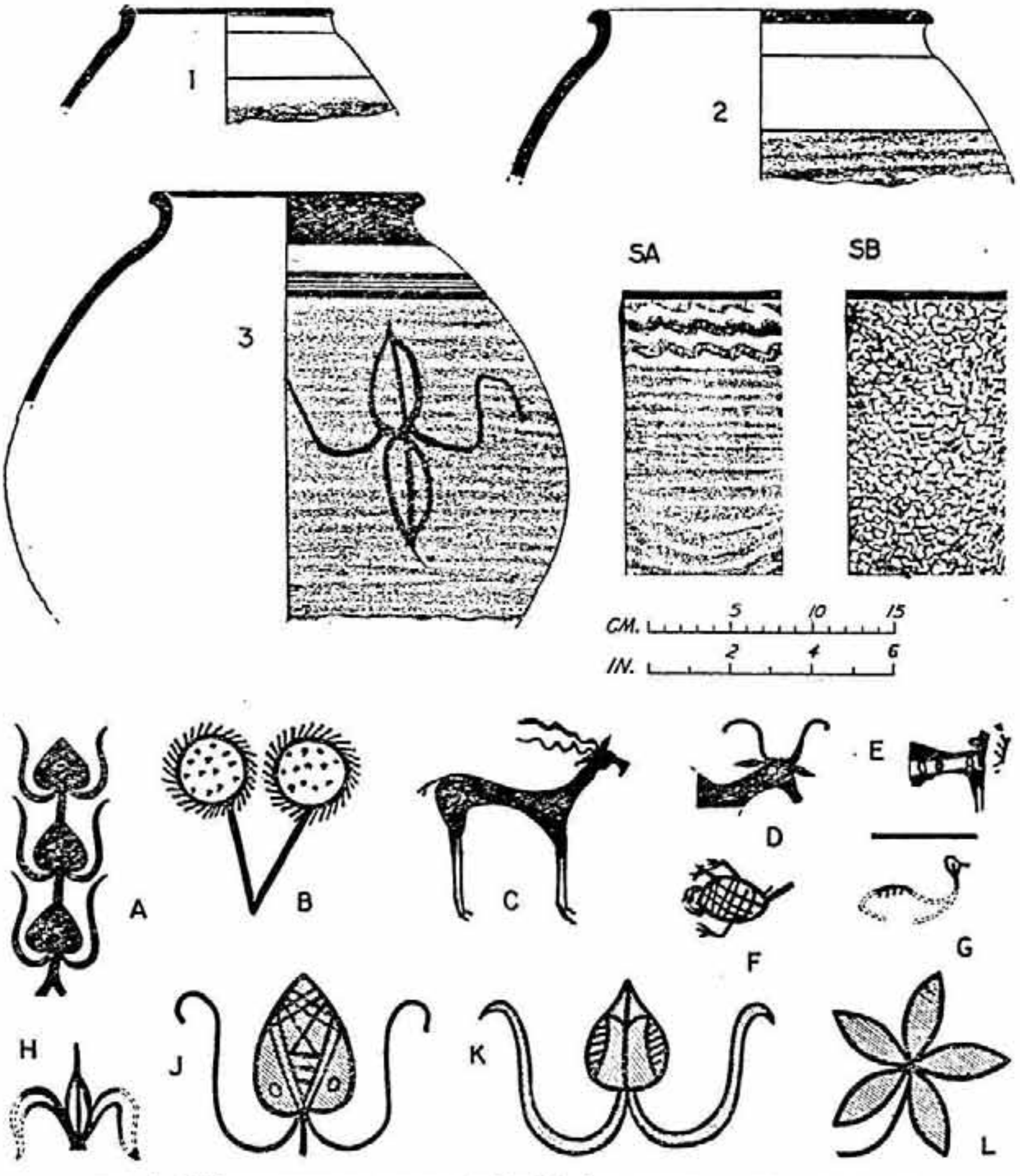


FIG. 4. *Kalibangan: pottery-types and painted designs on pottery, Fabric B, Period I*

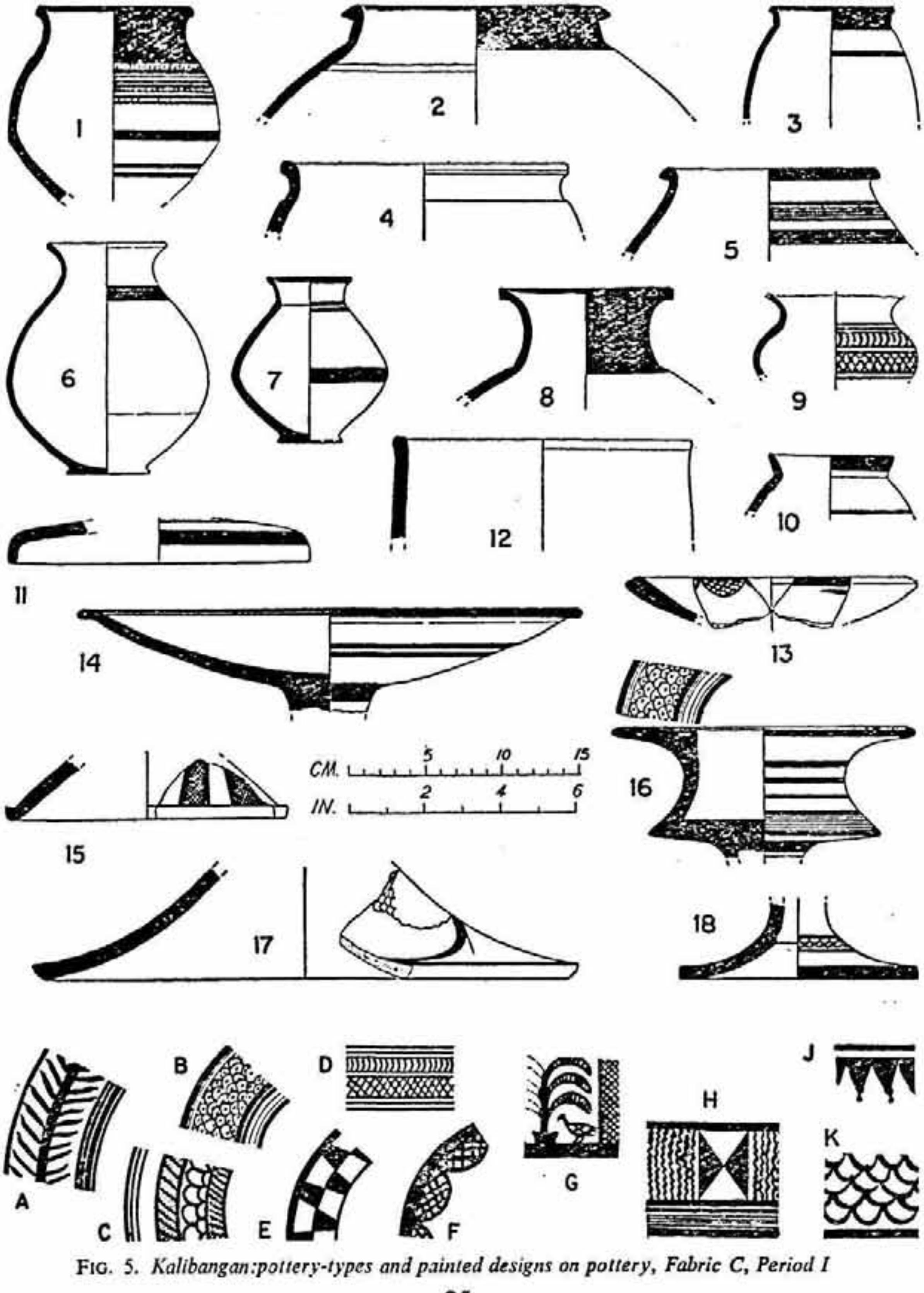


FIG. 5. *Kalibangan:pottery-types and painted designs on pottery, Fabric C, Period I*

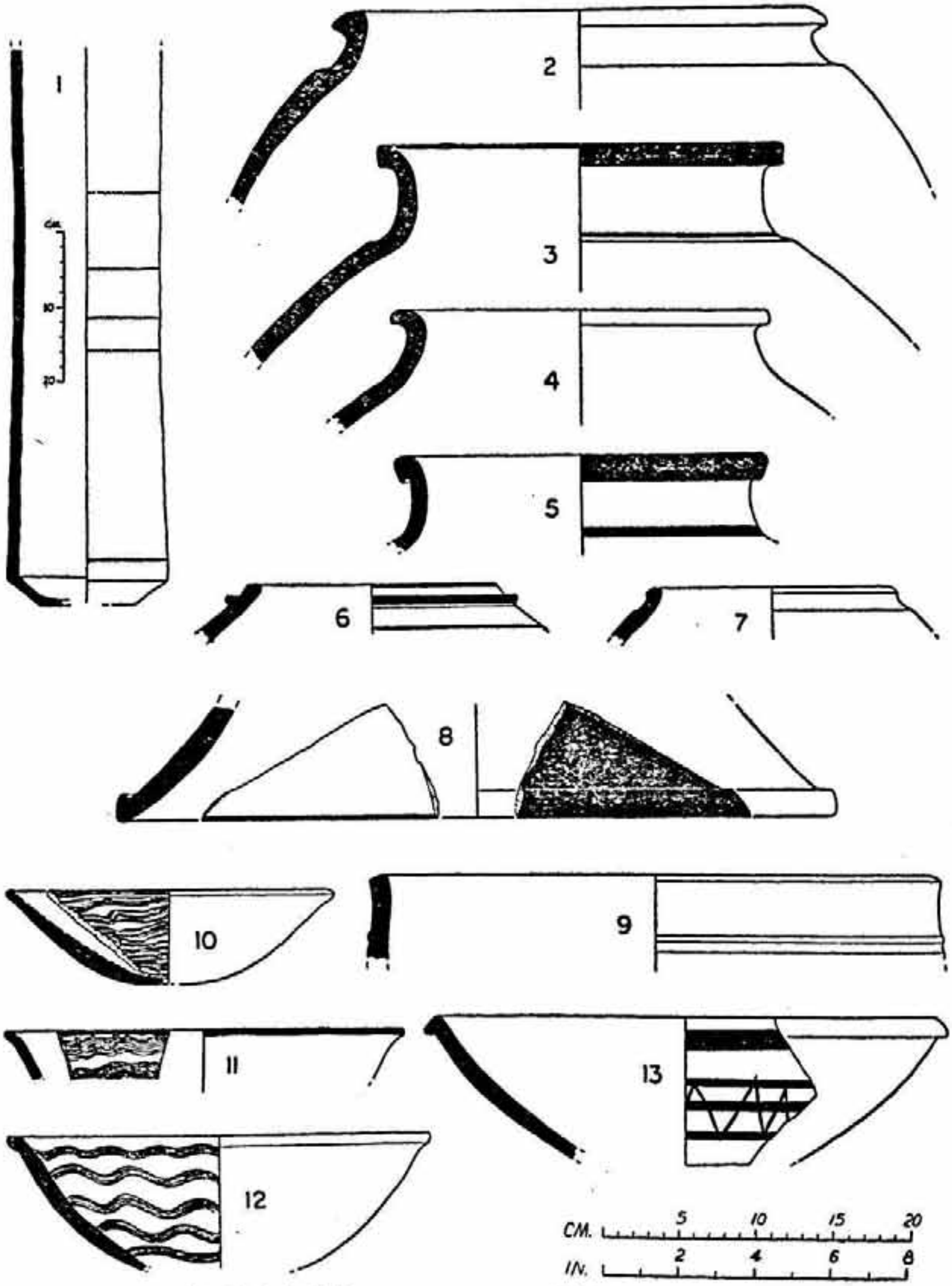


FIG. 6. *Kalibangan: pottery-types, Fabric D, Period I*

oblique lines with fronds (fig. 8, K); sigmas horizontal sequence above joined semicircles with fillers (fig. 8, *J)* and borders of scales (fig. 8, C) and latticed or plain scallops or loops (fig. 8, *D* and *E);* and such individualistic motifs as multi-petalled flowers (fig. 8, *F),* fish (fig. 8, *A),* cock (?) (fig. 8, *B)* and stylized butterfly or double-axe within wavy verticals (fig. 8, *H).*

Fabric F (fig. 9) related to the grey-coloured pottery and was represented in forms commonly met with in other fabric, viz. dish-on-stand (fig. 9, 1-3) basins (fig. 9, 4 and 5), bowls (fig. 9, 6) and vases (fig. 9, 8-10). For decoration, the use of both black and white pigment (hatched in the drawing) was current.

To recount the diagnostic traits. Fabric A was distinct alike in kind and range. Fabric B, while individualistic in its surface-treatment, including the decorative theme, showed affinities with Fabric C both in paste-texture including potting and in vase-forms. Amongst Fabrics C-F, the difference was more apparent than real and lay essentially in the colour of the surface-dressing or the thickness or size of the body. This is amply borne out by intercorrespondence in forms like jars with short necks and ledged shoulders, offering-stands, lids, bowls and basins, etc. In frequency, Fabrics E and F were somewhat uncommon, the latter being particularly scarce. An exclusive decorative element, however, was the all-over pattern on the inner side of the basins of Fabric D. Some of the sherds also bore graffiti-marks, noteworthy amongst which was the arrow. Some of the forms and the painted designs amongst these fabrics show a generic relationship with the Sind-Baluch sites of pre-Harappan vintage, notably Amri, Kot-Diji, pre-defence levels at Harappa, etc. The surface-elaboration of Fabric B closely resembles that of the Wet Wares including the Khojak Parallel Striated of the Quetta region.

The other finds of this culture included: small-sized blades of chalcedony and agate, sometimes serrated or backed (pl. LXII A); beads (pl. LXII B), variously of steatite (disc), shell, carnelian, terracotta and copper; shell bangles; terracotta objects (pi. LXI B) comprising a fragmentary bull, toy cart-wheel with single-sided hub; an annular ring; bangles, both of rectangular (single or joined) and circular section; an abstract figure; quern-stones with mullers (pl. LX B); a bone point (pl. LXII B); and copper objects (pl. LXI A) comprising a celt, a bangle, a non-descript cutting-tool and a few other fragmentary objects. Noteworthy in this milieu was the occurrence of the small-sized blades showing secondary working.

When the occupation had reached an average height of 1.60 m. above the natural surface, the mound seems to have been temporarily abandoned perhaps following a (seismic ?) catastrophe as shown by a sandy layer sealing displaced (faulted) deposits (pl. XLIX A). Further confirmatory evidence is, however, necessary to establish this postulate. The mound, however, was soon re-occupied, the event synchronizing perhaps with the arrival of the Harappans on the site (Period *IT).* Thereafter the structural character of the site was changed. Blocks of mud and mud-brick, each separate from were constructed and rebuilt or enlarged as occupation advanced. Relevant structures seem to have been raised over these platforms. Although specific details of the structures are still incomplete, being obscured by systematic brick-robbing, they included perhaps a building used for ritualistic purposes. An elaborate drainage at successive levels would support such a premise. Furthermore, within the enclosure of a room were found rectangular fire-places (perhaps ritualistic) aligned in a row (pl. LVIII); a later drain had, however, cut across these.

Whether the settlement was open or fortified still remains to be determined by further work. In the meantime, traces of a massive wall-complex successively rebuilt or reinforced (pl. LI) were recorded on the southern side of the mound.

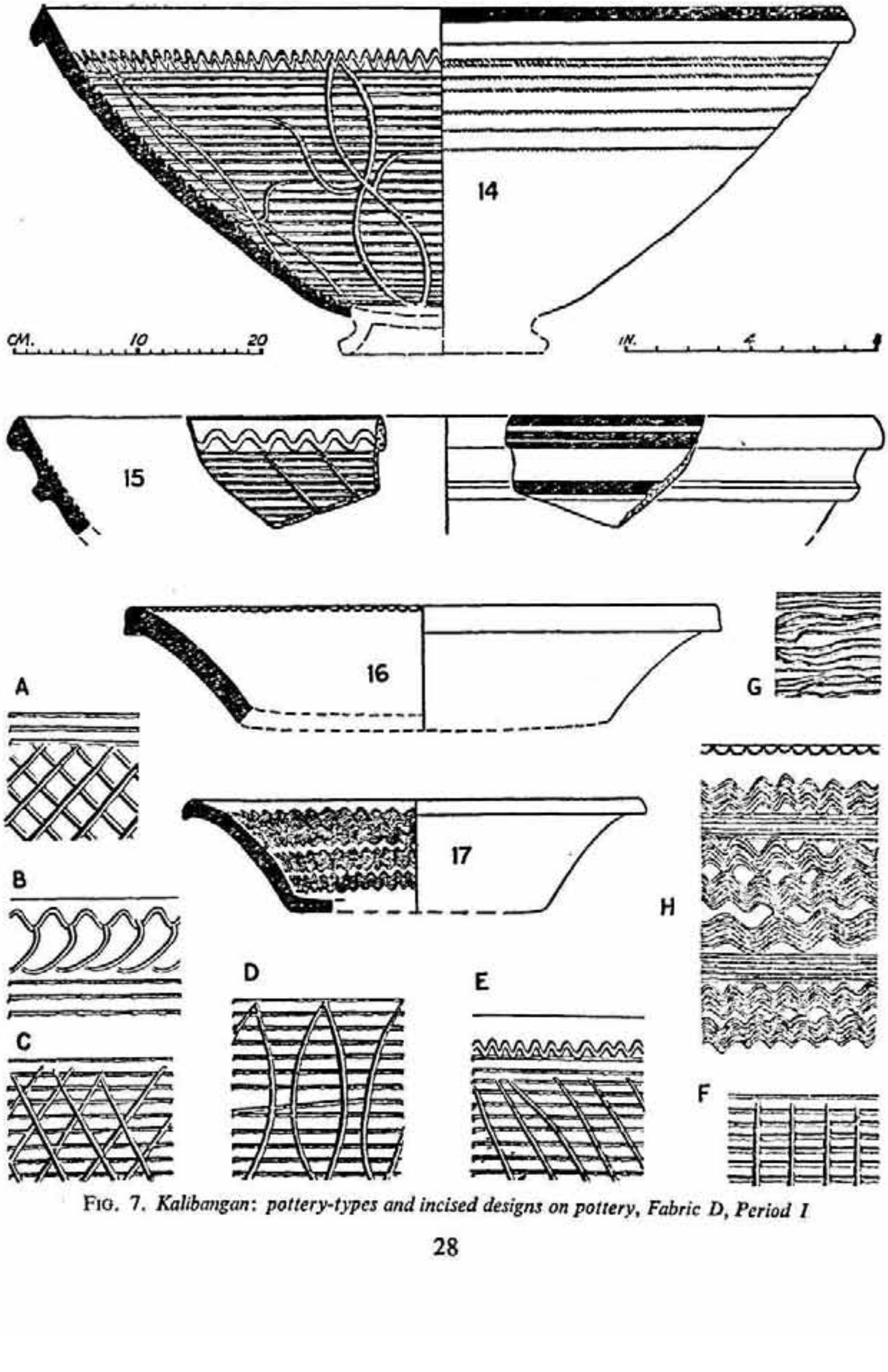


FIG. 7. *Kalibangan: pottery-types and incised designs on pottery, Fabric D, Period I*

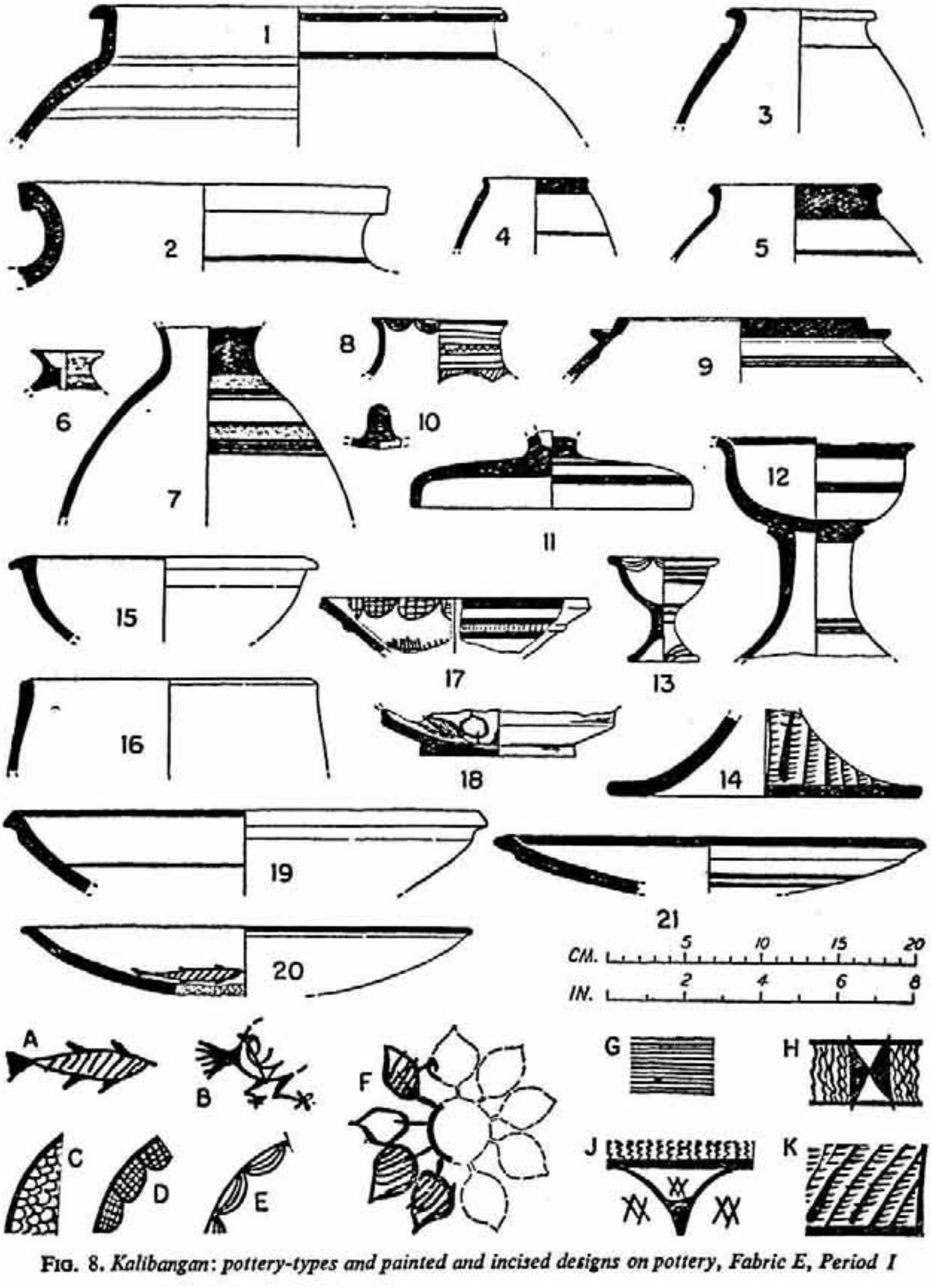


FIG. 8. *Kalibangan: pottery-types and painted and incised designs on pottery, Fabric E, Period I*

At KLB-2, the excavation uncovered the characteristic Indus chess-board plan with oblong blocks of houses, sub-divided by lanes and thoroughfares. The main arterial thoroughfare, part of which was excavated to the natural surface (pls. LII and LIII) measured over 7 m. in width and, throughout the occupation, was rigorously maintained without any serious alteration. The only encroachment on the street consisted of curious rectangular troughs or bazar-platforms outside some of the houses (pl. LV A). No street-drains were found; at one place, however, successive drains (pl. LIV A) from a house-block were seen to discharge into the street. The street, except for the late phase, was unmetalled. On the other hand, in front of some of the houses could be seen patches of mud-brick flooring, sometimes with bricks-on-edge.

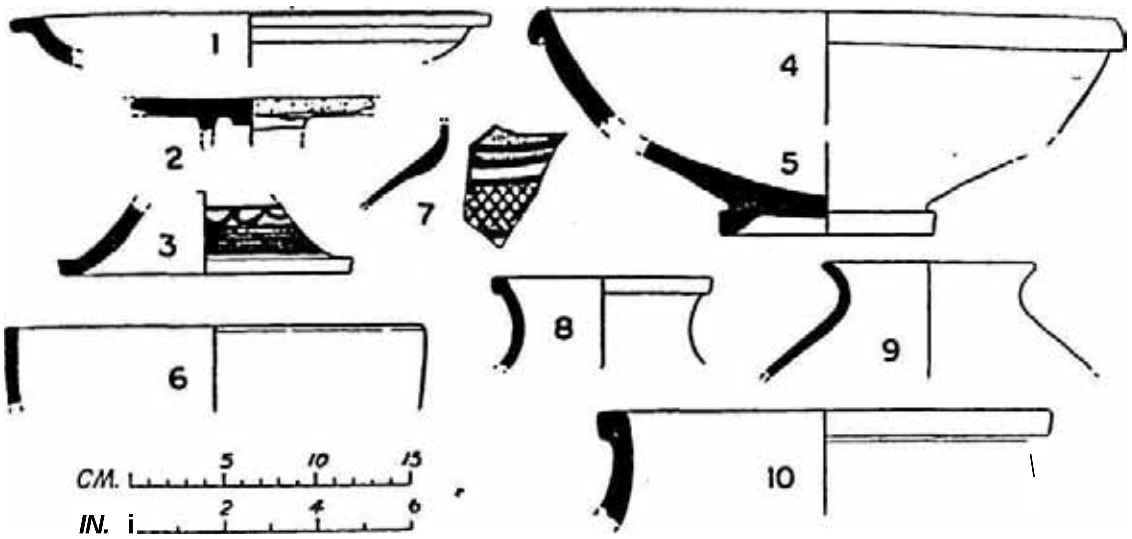


FIG. 9. *Kalibangan: pottery-types, Fabric F, Period I*

Within the excavated area a side-street and two lanes, running east-west, and respectively 5 and 1.50 m. wide, were found to open into the main thoroughfare, which running south-north led from outside to the heart of the city. Four blocks of houses, two on each side of the main street, were thus demarcated. Each block consisted of a series of rooms with a courtyard. The houses were built of mud-bricks of the size of 30x 15x 7.5 cm., the use of baked bricks being confined to drains, wells, etc. In one of the blocks were found a well (pl. LV B) and a well-preserved stairway (pl. LIV B) with four extant treads leading to the flat roof or the upper storey. The same block showed a doorway opening into the main street. A noteworthy feature of the houses was the occurrence of oval or rectangular 'fire-places' (pls. LVI A) at different levels. Whereas the exact function of these structures still remains unresolved, some of the recurrent features were as follows. A shallow pit, oval or rectangular on plan, was first excavated. In this pit fire was made and in the centre a cylindrical (pl. LVII A) (sun-dried or pre-fired) or rectangular block (pl. LVII B) (baked-brick) was fixed. Terracotta cakes seem to have been used in the performance of the ritual (pl. LVI B).

Typically Indus were the pottery, both plain and painted, and other finds from the Harappan levels of KLB-1 and KLB-2. The finds included : blades; seals and sealings (pl. LXIIC); weights; terracotta figurines, animals, birds and human; terracotta bangles; copper implements; beads of steatite, carnelian, jasper, faience and copper; and a variety

of terracotta cakes (triangular and circular) including ill-shaped nodules. Among the pottery, sherds bearing Indus script or graffiti were also found. The painted designs included such distinctive Indus elements as a medley of intersecting circles, scales, *pipal*-leaves, rosettes, etc. Likewise the ceramic forms comprised: goblets with pointed bases; perforated cylindrical jars; offering-stands or dishes-on-stands; cylindrical beakers; perforated handled cups; tall jars with S-shaped profile and flanged rim; globular vessels with flanged rims; etc.

Vertically, the overlap of the two ceramic traits, viz. the pre-Harappan and the mature Harappan, Periods I and II, was again attested in the lower levels at KLB-2.

58. EXCAVATION AT BAIRAT, DISTRICT JAIPUR.—The North-western Circle of the Survey, under Shri N. R. Banerjee, undertook a trial-excavation at Bairat, already known for its Asokan edict. The excavation revealed a succession of four Periods ranging in date from the late phase of the Painted Grey through Northern Black Polished Ware to the medieval age. Period I, characterized by a few representatives of the Painted Grey Ware and its associates merged imperceptibly into the next with an overlap. Period II contained the N.B.P. Ware along with its associated miscellany of finds. Period III revealed ceramics belonging to the early centuries of the Christian era. Period IV, which followed after a lapse of time, was marked by medieval glazed ware, besides enormous quantity of iron slag (pls. LXIII and LXIV). The use of iron was, however, attested from the earliest occupation onwards.

59. EXPLORATION IN DISTRICTS SAWAI-MADHOPUR AND SIROHI.—The Department of Archaeology and Museums, Government of Rajasthan, explored the Hindaun area in District Sawai-Madhopur and Abu region of District Sirohi and collected sculptures of the early medieval period from Ageri and Jagar in the former District and from Varmana in the latter.

UTTAR PRADESH

60. EXPLORATION IN DISTRICT ALIGARH.—The Department of History, Aligarh Muslim University, under Shri R. C. Gaur, explored some mounds in the District and located (i) Painted Grey Ware sites at Bharatpur, Bajhera, Komri, Sasni, Tappal and Tuskan (at the first-mentioned site black-and-red ware was also encountered), and (ii) early historical sites at Andos, Gohan-Khera, Kalwa, Lakhnu and Sherpur.

61. EXPLORATION IN DISTRICTS ALLAHABAD, BANDA, MIRZAPUR AND VARANASI.—In continuation of the previous year's work (1961-62, p. 52), the University of Allaha bad under Professor G.R. Sharma, assisted by Shri V. S. Dubey, Shri D. Mandal, Shri B.B. Misra and Shri V.D. Misra, explored the valleys of (i) the Belan, Seoti and Tundiari in District Allahabad, (ii) the Gehara-nullah, Jhurri, Mandakini and Payasvini in Districts Banda and Satna ; (iii) the Chhatar-ki-nadi, Garai, Harrai, Hathi-nullah, Kanhar, Kauha, Khajuri, Malia-nadi, Murdhana-nullah, Rihand, Simaria-nullah, Son and Thema in District Mirzapur ; and (iv) Chandraprabha and Karmanasa in District Varanasi. The exploration brought to light : (i) sites of the Early Stone Age ; (ii) sites of Middle Stone Age ; (iii) sites yielding pre-pottery microliths relating perhaps to the Late Stone Age ; (iv) rock-shelters with paintings ; (v) megalithic structures with corresponding habitation sites; and (vi) early historical sites.

Early Stone Age tools including handaxes, cleavers and scrapers made from flakes of sandstone and quartzite were found on the confluence of the Thema and Kauhar rivers and on the Malia near Harna-Kachar in District Mirzapur and at the foot of the Hathi-nia Pahar in District Varanasi.

Middle Stone Age tools comprising blades, flakes, scrapers and cores were found near the villages of Chamdiha, Deoghat, Kon, Lal-Bijora and Noadiha. An exposed section on the river Thema revealed two cycles of gravelly deposition alternated by a deposit of coarse sandy silt. At Deoghat on the river Belan a stag-horn showing flake-scars, reminiscent of the Middle Stone Age tradition, was also found.

Microliths consisting of simple and parallel-sided blades, blunted-back blades, lunates, burins, etc., were found at a larger number of sites, noteworthy amongst which arc : a site between Seoti and Tundiari rivers in District Allahabad; near Karvi in District Banda; Bhainsaur, Dagamagapur, Drummondganj, Dudhi, Hathwani, Hema-Kachar, Kon, Muralia, Paraspani and Raja-ki-Chauki in District Mirzapur; and Hathinia-Pahar, and Kaurihar in District Varanasi.

Rock-shelters with paintings in red ochre, depicting scenes of hunting, dancing and other rituals, were found at Deoghat and Ramgarh in District Allahabad, and Baga-Pahari, Baghai-Khor, Bedia, Khari-Pathari, Lekhania, Marchahia and Tharpahara in District Mirzapur. In some cases evidence of superimposition of paintings was also observed.

The megalithic tombs of this area (1961-62, p. 53) are found to occur : (i) at the junction of the northern slopes of the Vindhyas and the Ganga-Yamuna alluvium; and (ii) on the banks of the rivers and nullahs at the foot of the Kaimur. The types comprise cairn- circles and dolmenoid cists.

In District Allahabad such types were observed at Badaun-Kalan, Kotia and Mando. Among these the site at Kotia is the more prominent with more than three hundered monuments of both the categories. In District Mirzapur they were located at Arjunapur-Lauria, Barkachcha, Barji, Chhitampur, Deopur, Jarha and Lalpurawa. In District Varanasi, the region between the valleys of the Chandraprabha and Karamnasa rivers was notably rich as megalithic tombs were found on the banks of both the rivers and at the foot of the isolated hillocks. Special mention may be made of the sites encircling the Hathinia hill and the Bhadahwan-Pahar. A noteworthy feature of the distribution of types is the preponderance of the cairn-circles in Varanasi District and the dolmenoid cists in Districts Allahabad, Banda, and Mirzapur.

The corresponding habitation-sites were located at Baira, Daira-Dumunhanwa, Deoghat, Kaurihar, Khajuri, Malabara, Mobarakpur and Tirasi. The pottery obtained from these sites included the black-and-red ware, all-black ware and red ware. A few sherds showing paintings in black pigment over a red-slipped surface were also found at Baira and Deoghat. A characteristic feature, however, was the occurrence of microliths at all of the these sites. The early historical sites were located at: Allahabad itself, near Amilia, Kukurhata and Pal-Neodhia in District Allahabad; and Ramana-ki-tadi, Hitim-pur and Muzaffarpur in District Varanasi.

62. EXCAVATION AT KAUSAMBI, DISTRICT ALLAHABAD.—The University of Allahabad, under Professor G.R., Sharma assisted by Shri D. Mandal and Shri B. D. Misra (1961-62, p. 50), resumed the excavations of the palace-area in the extreme south-west corner, primarily with a view to confirming the structural sequence observed last year.

The excavation established the twofold sequence. The layers contemporary with the earliest or the undressed phase of the stone wall yielded pottery-types

analogous to Navdatoli Phase III, Rangpur II C and III, etc. Some of the sherds bore paintings in black, characteristic of the central Indian chalcolithic culture-complex.

The second structural phase, marked by the emergence of the dressed masonry, belonged to the Northern Black Polished Ware phase.

The rampart on the southern side was found to have been made of mud. This wall evidently served a dual purpose, viz. to defend the city in case of attack and to save it from the floods of the Yamuna. The period of its construction and its subsequent history could not, however, be determined.

63. EXPLORATION IN DISTRICTS BASTI, DEORIA, GHAZIPUR, GONDA, JAUNPUR, MIRZAPUR AND VARANASI.—The Banaras Hindu University, under Professor A.K. Narain, assisted by Shri P. C. Pant, conducted intensive exploration in these Districts and located several sites yielding the Northern Black Polished Ware. Buddhist *stupas* and *viharas*, besides forts and temples with sculptures, were also found at quite a number of places.

In District Basti, the N.P.B. Ware was found at Deoriya and Pipari in Tahsil Bansi and remains of Buddhist *stupas* at Asuriana and Kanwa in Tahsil Naugarh and Mandhur in Tahsil Bansi. At the latter site the existence of five *stupas,* one in the centre and the other four at the corners, was suspected. Traces of *viharas* were observed at Deoriya and Nishahar in Tahsil Bansi. Among the early historical sites explored, mention may be made of Bansi, Bhainsa and Dighwa, where a good many terracotta figurines were found.

In District Deoria, fortynine sites were explored. Of these Marchayadih in Tahsil Padrauna and Papaurdih in Tahsil Hata yielded the N.B.P. Ware. At Banmurcha, Sohankot and Surawali in Tahsil Sadar and Asmanpurdih in Tahsil Padrauna defensive walls were encountered. Traces of Buddhist *stupas* were found at Fajilnagar in Tahsil Padrauna.

In District Ghazipur, only Tahsil Saidpur was explored but as many as sixtyfour protohistoric and historical sites located. Of the protohistoric sites, Dahra, Joharganj I and II, Mason, Poula, Saidabad, Sikadi and Taraon yielded the black-slipped ware of the Rajghat type. In addition, black-and-red ware was found at Mason and Joharganj I and II. Among the historical sites, Bhitari, Daulatpur, Devchandpur, Devkali, Gaja-dharpur, Joharganj I, Moudhuja, Phulwaria, Swalia and Vikrampur-Sikadi deserve mention. Numerous sculptures of artistic merit were found at these sites.

In District Gonda two ancient temples were located at Prithvinath and Pachranath near Kharagpur Bazar. The temples appear to have been built by Gahadavala kings.

- In District Jaunpur, the N.B.P. Ware was found at Bajra-Tiket, Mahal and Zafar-abad in Tahsil Jaunpur. From Kothavan in the same Tahsil, early historical finds and an image of Vishnu, assignable to the eleventh century A.D., was obtained.

In District Mirzapur, out of the four Tahsils only three could be explored and in total fiftyeight sites were brought to light. Middle Stone Age tools were discovered in the gravel-bed of the Son river near Chopan in Tahsil Robertsganj. The specimens were, however, rolled and patinated. About 9 km. further west, a cliff-section was recorded showing a 1.50-2 m. thick loose gravel overlain by a 2.50 m. thick alluvial deposit. In the hilly tracts of these Tahsils, often on the slopes, several open stations yielding microliths were located. The deposit in any case did not exceed 25 cm. Except for a few cases, where a dull-red ware with rough and worn-off surface was found as at Banimilia-Bahera in Tahsil Chunar, the microliths were unassociated with pottery. The sites at Dainihill, Dhanauri, Dighul, Khajuri, Lakra, Nagwa, Pipradih and Saudag were

typical of the latter class. Rock-shelters at Kohbar, Likhuniadari and Panchmukhi in Tahsil Chunar were re-explored. Some thirty fresh rock-shelters were discovered in Baraila, Khuraila and Saudog forests. In most of them open stations of microliths Bairahva, were found in close vicinity. Of the other sites explored, Banimilia-Bahcra, Bairala, Barkad, Bhavan-Jharia, Kamhari, Kusaha-Kusi, Mahauwan, Rudauli, Sara-nyya, Sidhi, Sultanpur and Ubadhi yielded the black-and-red ware. Except at Banimilia-Bahera, Bairahva, Bairala and Sidhi, the Northern Black Polished Ware was also recorded at these sites, and additionally at Romp. Other sites explored yielded *inter alia* sculptures of the medieval period. .

In District Varanasi, Chakia and Chandauli Tahsils were partially explored and about thirtynine protohistoric and historical sites brought to light. Black-and-red ware was found at Banda, Lathaura, Madara, Panchwaniya, Sikandarpur and Takiyapar in Tahsil Chakia and Amaval, Barahuli, Bairat, Bartha, Bhadauli, Chanahta, Chandauli, Dhus, Ganj, Itwan, Janso-ki-Marai, Jasuri, Khuruhajan, Leelapur, Machiyan, Murbara-huli and Prahaladpur in Tahsil Chandauli. At Banda, Sikandarpur and Takiyapur in the former Tahsil and Bairat, Itwan and Janso-ki-Marai in the latter, the N.B.P. Ware was also found. In addition, Magaraur in Tahsil Chakia and Prahaladpur, Leelapur and Sirpat-Baram in Tahsil Chandauli also yielded the N.B.P. Ware. The sherds from Janso-ki-Marai were also painted and incised.

64. EXPLORATION IN DISTRICT BULANDSHAHR.—Shri R. P. Sharma of the North western Circle of the Survey reported the occurrence of the Painted Grey Ware at Birupur and grey ware at Dadha and Nizampur. Early historical sites were located by him at Bhataola, Biswana, Ghazipur and Til-Begumpur.

65. EXCAVATION AT ATRANJIKHERA, DISTRICT ETAH.—The Department of History, Aligarh Muslim University, under Shri R. C. Gaur, undertook excavation at Atranjikhera already subjected to trial-trenching previously. The excavation revealed six periods of occupation, of which the upper four belonged to the historical and medieval periods (fig. 10).

Period J, represented by a 1-m. thick deposit overlying the natural soil, yielded the ochre-coloured ware, similar to that obtained from the lowest levels of Hastinapura and Bahadarabad. The deposit here, however, is thicker than that of the former site. The ware seems to have been made on wheel. Traces of a red slip were also present on a few sherds. Some decorated sherds showing notches, parallel and wavy lines, etc., were also met with. A large number of burnt brick-bats of ochre colour were also found.

Period II, extending to a further height of 4 m., was characterized by the occurrence of the Painted Grey Ware (pl. LXVI) in association with plain grey, black-and-red, black-slipped and red wares. The other finds of the Period included iron arrow-and spear-heads, bone styluses, gamesmen, beads and terracotta discs. Although it still remains to be established with certainty three structural phases could be determined.

Period III *(circa* 600-200 B.C.) was distinguished by the use of the Northern Black Polished Ware along with other associated fabrics. The black-slipped and fine grey wares of the preceding Period persisted for some time, thus indicating an unbroken succession with an overlap of the two traditions. The other finds of Period III were typical of this horizon (pl. LXVII B) except for a few pottery-types and terracotta objects (pls. LXVII A and LXVIII A) usually ascribed to the Sunga Period. Among the structures mention may be made of a ring-well, a silo of mud-bricks and a mud-brick wall superimposed over another wall of baked bricks. Associated with the latter was an impressive burnt-brick floor (pl. LXV A).

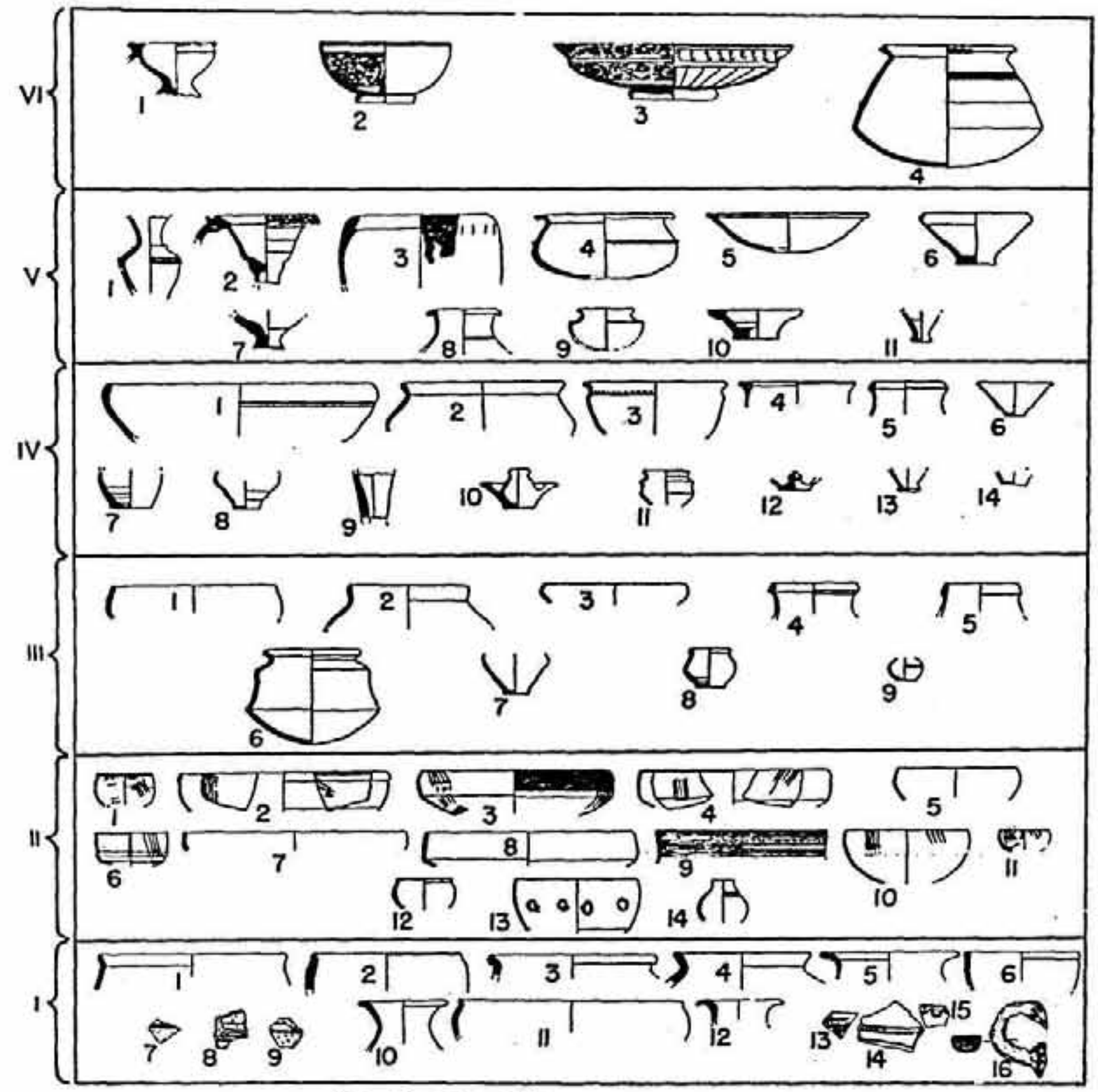


FIG. 10. *Atranjikhera : pottery-sequence*

The ceramic of Period IV *(circa* 200 B.C.-A.D. 300) consisted of a dominant red ware of medium fabric, assignable to the early centuries of the Christian era. The terra- cotta human (pl. LXVIII) and animal (pl. LXIX) figurines, beads and miscellaneous other finds (pl. LXX A) were characteristic of this Period. An interesting house-complex of burnt brick (pl. LXV B) in conjunction with the structures of the previous Period was also exposed.

Period V *(circa* A.D. 600-1200) followed after a desertion of the site and was characterized by an early medieval fabric showing incised designs and spouts, etc. and crude human (pl. LXVIII) and animal (pl. LXIX) figurines.

Period VI *(circa* A.D. 1200-1500), being a continuation of the previous Period, saw the appearance of the glazed ware (pl. LXX B) of the sandy friable fabric showing floral and geometric designs.

66. EXPLORATION IN DISTRICT HARDOI.—Dr. V. N. Misra of the Deccan College Post-graduate and Research Institute, Poona, collected the Painted Grey and Northern Black Polished Wares from an ancient mound at Shampur on the right bank of the Ramganga, about 6 km. north-east of Fatehgarh.

67. EXPLORATION IN DISTRICTS MEERUT AND MUZAFFARNAGAR.—The Headquarters office of the Survey, under Shri M. N. Deshpande, assisted by Shri S. P. Jain and the students of the School of Archaeology, undertook explorations along the Budhi-Ganga river in Tahsil Mawana, District Meerut and Tahsil Jansath, District Muzaffarnagar. Covering an area about 8 km. in width and 96 km. in length, the party located several sites, noteworthy amongst which is Sikerera with deposits of the ochre-coloured ware and the Painted Grey Ware. A thick sturdy ware, suspectedly Harappan, along with some chert blades was reported from Kailapur. Besides, medieval monuments in the form of forts, palaces, temples and mosques were also located. The explored sites with their cultural assemblage are listed in the appended table.

(H—thick red ware, possibly Harappan; OC—ochre-coloured ware; PG—Painted Grey Ware; G—grey ware associated with the N.B.P. Ware; BS—black-slipped ware; BR—black-and-red ware; R—red ware of the Sunga-Kushan assemblage; M—medieval ware)

District	Site	Locality	Ware
Meerut .	Aghwanpur	Badhi-ka-kheda	M
	Akbarpurgarhi	Garhi	R, M
	Do. Behroli Dabka	Oontakhera	M
	Fathpurnarain Ferozpur	—	M
	Do.	—	PG, BR, G, M
	Gajupura Godha	—	M
	Humayunpur Inchi-Kalan	Ferozpur	R, M
	Inchi-Khurd Khai-khera	Old Ferozpur	M
	Khatki	—	M
		Budhakhera	G, R,
		Minapur	R, M
		—	M
		—	M
		Kalanderwala'	R, M
		Kabirpur	M

District	Site	Locality	Ware
Meerut	Kiratpur	Kabirpur	M
"	Kuri-Kamalpur	—	R, M
"	Laliana	—	M
"	Mahmudpur-Sikera	Burz	R, M
"	Maur-Khurd	Kheri	R, M
"	Narangpur	Jarkhandi	M
"	Nawalpur	Nawalkhera	M
"	Nizampur	—	M
"	Parichhatgarh	—	PG, G, R, M
"	Saifpur	Nayee-Puthi	M
"	Shondat	—	G, R, M
"	Tajpur	Berkhera	R, M
Muzaffarnagar	Bhoapur	—	R, M
	Bhuma	—	G, BS, M
"	Jarwar	—	M
"	Jatwara	—	G, R, M
"	Kailapur	—	H, PG, BS, G, R, M
"	Kaitbora	Sonbaras	PG, G, BS, R, M
"	Kari	—	M
"	Khai-Khera	Mimlakheri	G, R, M
"	Kheri-sarai	—	G, BS, R, M
"	Majhera	—	M
"	Mukallampur	Dampur	R, M
"	Puthi-Ibrahimpur	—	M
"	Shukartar	—	R, M
"	Sikanderpur	—	M
"	Sikrera	—	OC, PG, G, BS, R, M
"	Tahdhera	—	R
"	Tiparpur	—	PG, M

68. EXPLORATION IN DISTRICT MIRZAPUR.—Shri Nisar Ahmad of the Deccan College Post-graduate and Research Institute, Poona, found some Middle Stone Age tools near Chopan. Near Banjori on the Tepawan-nadi a section was noticed showing a cemented gravel overlain by a silt, and tools of Early Stone Age were found at Bhadora from the bed of Umrar-nadi and near Barari and Basari on the Mahan-nadi. Some paintings were also noticed by him in the rock-shelters near Chopka. No tools, however, were found there.

69. EXCAVATION AT BHAINSAUR, DISTRICT MIRZAPUR.—The University of Allahabad, under Shri Radha Kant Verma, working under the supervision of Professor G. R. Sharma, excavated two sites near the village Bhainsaur. In all, three trenches, one open-air and one each in the rock-shelters on the Morahana-Pahar and Baghai-Khor, were laid out.

The open-air trench, measuring 3 X 1.5 m., was dug to a depth of 91 cm. when bedrock was struck. This deposit comprised six layers, the lowest of which, labelled 5 A, yielded no evidence of human occupation. In layer 5 microliths of non-geometric type, unassociated with any pottery, were found. The succeeding layers 4 and 3 yielded

microliths of geometric type associated with pottery which was ochrish-red in surface-colour and greyish in section. Layers 2 and 1 yielded microliths of both of the geometric and non-geometric series and the same class of pottery. The composition of the layers, however, showed a marked change indicative of dry conditions and sparse vegetation. From layer 1 an iron arrow-head was also obtained.

The trench at the Morahana-Pahar rock-shelter, measuring 1 -80x 1 -20 m., was dug to a depth of 60 cm. when bed-rock was reached. The deposit comprising four layers was broadly equated to layers 4 to 1 of the open-air trench. No non-geometric series of microlith were obtained from this trench. Here again, layer 1 yielded an iron arrow-head.

The trench at the Baghai-Khor shelter, measuring 3.65 X 1.80 m., also showed an occupational deposit of about 60 cm. divisible into four layers: the lowest layer, labelled 4, non-geometric microliths and no pottery; layer 3, microliths, and pottery; layer 2, larger number of microliths and pottery; and layer 1, microliths, pottery of the usual type, late pottery and iron objects including an arrow-head.

An interesting feature of this trench was the discovery of a human burial showing an articulated extended skeleton, 1.54 m. long, placed in an east-west direction. The burial-pit was cut into layers 3 and 4 along with a part of the cave-floor and was found to be partly disturbed by a subsequent pit which in addition damaged part of the skull.

70. EXCAVATION OF BANIMILIA-BAHERA, DISTRICT MIRZAPUR.—The Banaras Hindu University, under Professor A. K. Narain, assisted by Shri P. C. Pant, undertook excavation of the megaliths at Banimilia-Bahera in the Jangal-Mahal area in Tahsil Chunar. The megaliths from this area, reported earlier by Cunningham and Carlleyle, extend over an area of about 11 to 16 km. in length from Ram-Sarovar and Jirgo dam in the north to Chudia hill in the south. Out of this extensive area those lying between villages Banimilia and Bahera were selected for closer investigation. Four types of monuments were recognized : I, cairns, made up of heaped stone-rubble carrying a single or multiple capstone; II, cists, enclosed by a cairn, no port-holes being seen in any of the orthostats and no capstone being present; III, cairn-circles (pl. LXXI A); and IV, tumulus (chamber type) containing rectangular or occasionally semi-circular chambers, made up of dressed stone, with a single or multiple capstone and enclosed by a heap of stone rubble, mixed with mortar, and at times covering the capstone. Five megaliths, three of type IV and one each of types I and II, were excavated. The pottery associated with these burials comprised: (i) ill-fired dull-red ware occasionally coated with red slip; (ii) over-fired red ware; (iii) black-slipped ware; and (iv) black-and-red ware. Excepting one, none of the excavated burials contained any skeletal material. The longer axis of the cists and chambers was oriented east to west being broader and higher on the west and narrower and lower on the east.

Megalith I (pl. LXXI B) belonged to type IV and consisted of a tumulus enclosing a roughly semi-circular chamber (pl. LXXII B) which yielded sherds of the black-slipped and dull-red wares. On the surface of the ancient humus, separated from the bottom of the chamber by deposits of yellow and white earth, a few microliths and numerous waste chips were found.

Megalith II belonged to type I. Its capstone, however, had got displaced from its original position. It yielded a few sherds of the dull-red ware. As in the previous case, microliths were found on the surface of the underlying black compact clay.

Megalith III belonged to type IV and showed a layer of pebbles mixed with mud below the chamber, the eastern side of which was made of single upright slab supported by two courses of stone masonry.   It yielded dull-red pottery.

Megalith IV was of the same type as above and contained the largest chamber (2.54 X -67 m.). Like Megaliths I and III, its chamber sloped from west to east and yielded sherds of dull-red, black-and-red and overfired red wares. Besides, some fragments of bones were also obtained from the deposit inside the chamber.

Megalith V (pl. LXXII A), of type II, consisted of a cist standing directly on the rock-surface and enclosed by a cairn. Each of the north and south sides of the cist was made of two upright stone slabs while the east and west ones were of single-piece orthostats. It yielded a few sherds of the dull-red ware.

Two cuttings laid out in the habitation-area revealed the general priority of the ill-fired dull-red and overfired red wares to the black-slipped and black-and-red wares. The stratigraphic sequence, however, needs further investigation. No sherd of the Northern Black Polished Ware was found in the excavation.

71. EXCAVATION AT MANWA AND NAZIRABAD, DISTRICT SITAPUR.—Shri Bhupendra Singh of Faizabad conducted excavation at Manwa and Nazirabad in District Sitapur and brought forth a sequence ranging from the Northern Black Polished Ware to the medieval period.

72. EXPLORATION IN DISTRICT UNNAO.—The University of Saugor, under Professor K. D. Bajpai, in the course of exploration in the District located sites with the Painted Grey Ware, at Dariyapur and Pariar and the Northern Black Polished Ware at Betthar, Dariyapur, Deeh, Kahinjar, Newal and Pariar.

73. EXCAVATION AT KAKORIA, DISTRICT VARANASL—With a view to ascertaining the nature of the megalithic monuments of the area, the University of Allahabad, under Professor G. R. Sharma, assisted by Shri V. S. Dubey and Shri V. D. Mishra, undertook an excavation of seven such monuments at Kakoria, situated near the famous sanctuary of Yogesyaranatha on the right bank of the Chandraprabha in Chakia Sub-division. The site is surrounded on all sides by gneissic outcrops, the highest amongst which is that of Hathinia. At the foot of the latter, several cairn-circles and cist-circles were located. Of the seven excavated monuments four (Megaliths I to IV) belonged to cairn-circle type and the remaining three (Megaliths V to VII) to the cist-circle.

The structural details of each type are as follows. For the cairn-circles which vary from 3 to 9 in. in diameter and 1 to 2 m. in height, a pit was dug into the natural soil to a maximum depth of about 1 • 52 m., and thereafter the grave-goods in the form of pots, beads, gold objects, skeletal remains and stone implements, including microliths, were placed on the pit-floor which generally was oblong or oval on plan, the longer axis being usually north to south. An exception to this practice was provided by Megalith V, apparently late in the series, where the east-west orientation of the pit was encountered. In one of the grave-pits four slabs were found lying one at each corner. The grave-pit was thereafter filled to the lip-level with the same earth and finally covered by mass of granite rubble which was circumscribed by a stone-circle.

For the cist type, a pit was dug into the natural soil. Thereafter the sides of the pit were lined with stone pieces, three or four for one side, no single-piece orthostat being used for one side as in the case of peninsular structures. No port-holed entrances were observed in the excavated examples. The floor of the chamber was likewise made of several pieces. The bulk of the funerary furnishings were deposited on the floor of the cist. The cist, after being filled up with earth, was sealed by a capstone and finally covered over by a heap of small stones and earth in the form of a cairn, bounded by a circle of untrimmed stones.

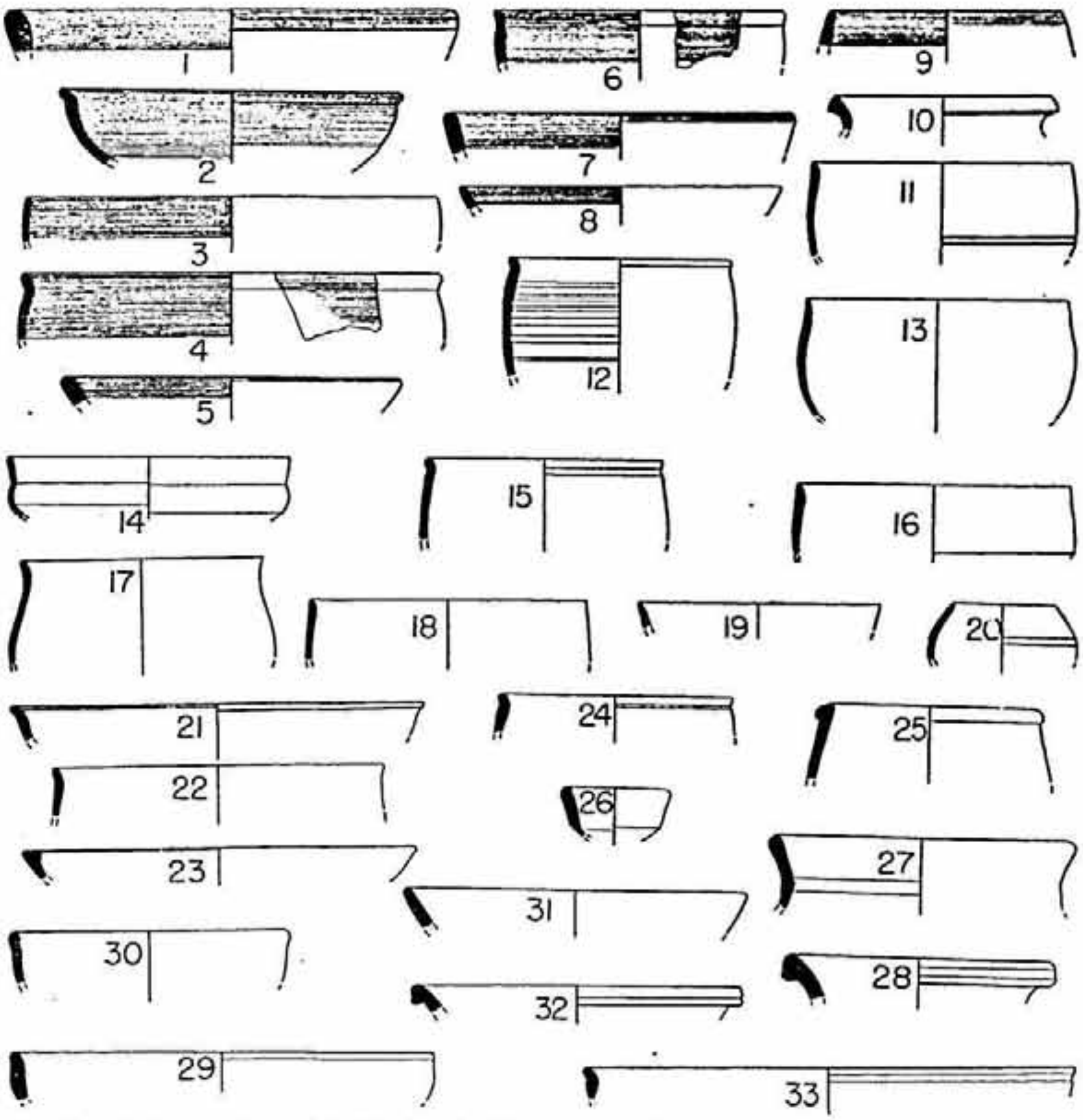


FIG. 11. *Prahaladpur: pottery,* 1-9, *black-and-red ware,* 10 *and* 27-33, *red ware,* 11-26, *black-slipped ware*

The excavated cists were largely disturbed. Only one of them yielded a few indeterminate sherds and fragmentary human tooth. The others were devoid of any pottery but contained some bones, one of them being part of a human skull.

It must be mentioned that no iron was found in any of the excavated monuments. Instead, microliths were seen placed along with pottery, gold ring and other objects in Megalith III.

Two cuttings were also made in the habitation-area immediately to the north-east of the Hathinia-Pahar. The occupational deposit with an average thickness of 1.40 mm. fell into three Sub-phases.

Sub-phase I A was characterized by microliths and an ill-fired red pottery. An interesting feature of the Sub-phase was a mud structure of which two rooms were fully exposed. Sub-phase IB was distinguished by the occurrence of more microliths including crested-ridge blades, beads, sling-stones, a copper ring and pottery. Sub-phase I C marked the decline of the habitation. The microliths did not show fine workmanship and were mostly small and broken. Pottery, however, continued as usual.

The ceramics recovered from the habitation-site included the red, black-and-red, and all-black wares. Some of the types of the black-and-red ware closely resemble those at Sonpur, Chirand, etc.

74. EXCAVATION AT PRAHALADPUR, DISTRICT VARANASI.—The Banaras Hindu University, under Shri T. N. Roy and Shri B. P. Singh, working under the general super vision of Professor A. K. Narain, undertook excavation at Prahaladpur, situated on the right bank of the Ganga river, about 11 km. south-east of Dhanapur in Tahsil Chandauli. The occupational strata fell into two Phases, IA and IB. The former was characterized by the occurrence of black-and-red, black-slipped and dull-red wares (fig. 11), terracotta wheels and spindle-whorls, microliths (LXXIV A), represented essentially by a fluted core and some waste chips, and bone points (pl. LXXIV B). The latter Phase, marking the advent of iron, belonged to the historical period and coincided with the appearance of the Northern Black Polished Ware. The black-and-red ware and the black-slipped wares of the preceding Sub-phase continued but their frequency became less as occupation advanced. Other finds included: punch-marked coins; beads; bone points; and terracotta objects like discs, balls and stoppers. Exploratory digging was also made across the fortification (pl. LXXIII A) which revealed three phases of construction; they however, have not so far been related to the habitation inside. A brick-lined well (pl. LXXIII B) was also brought to light as a result of trial-trenching in the adjoining area.

75. EXCAVATION AT RAJGHAT, DISTRICT VARANASI.—The resumed excavation at Rajghat. (1961-62, p. 57) by the Banaras Hindu University, under Professor A.K. Narain, revealed' in one of the cuttings a stratum earlier than the Northern Black Polised Ware yielding the same assemblage as that obtained from Prahaladpur Phase I A. Some of the sherds of the black-and-red ware bore paintings in white and of dull-red ware in orange pigment. The paintings in either case were on the interior (fig. 12).

The present excavation, spread out as it was in two areas (New Foundation for Education and Sarva-Seva-Sangh), did not reveal a vertical sequence of all Periods in a single cutting but uncovered structures variously of Periods III, IV, V and VI in the different trenches. Horizontal excavation within the protected area exposed structures of Period III including brick floor (pl. LXXV A). In this area were found seals and sealings, terracotta human (pl. LXXV B) and animal figurines and beads of various material including terracotta.

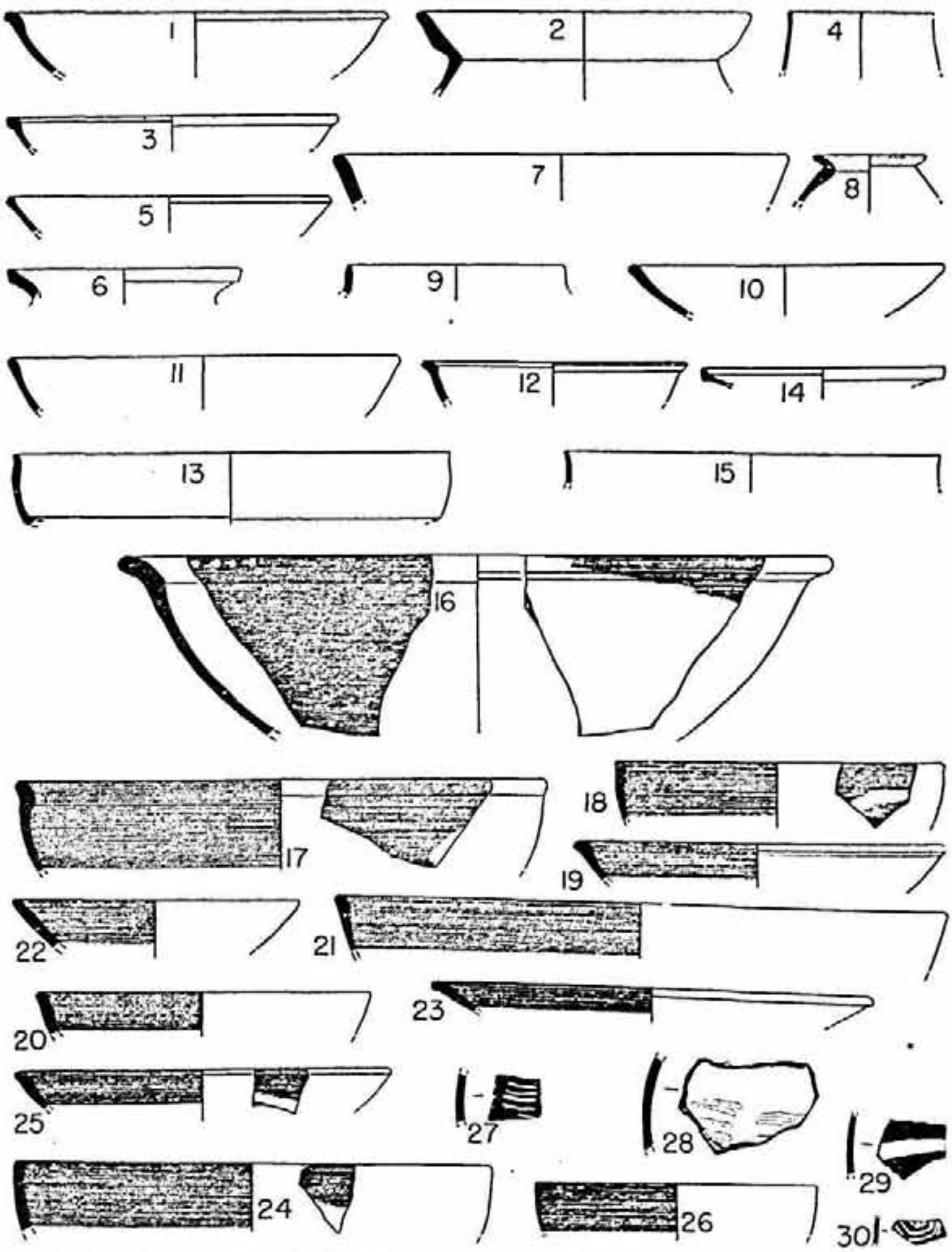


FIG. 12. *Rajghat: pottery, earliest levels*, 1-8, *red ware*, 9-15, *black-slipped ware*, 15-26, *black-and-red ware*, 27-30, *painted ware*

WEST BENGAL

76. EXPLORATION IN DISTRICTS BIRBHUM, BURDWAN, DARJEELING, MALDA, MIDNAPORE, PURULIA, 24-PARGANAS AND WEST DINAJPUR.—In the course of exploration in Districts Birbhum and Burdwan, the Department of Archaeology, Government of West Bengal, located sites yielding microliths, painted black-and-red and red wares of the Pandu-rajar-dhibi assemblage at Jashpur and Surath-rajar-dhibi in District Birbhum and Ganga-danga and Mangalkot in District Burdwan. Microliths were also obtained from an old land-surface scattered with fossil-wood at Sukhbazar and Tatarpur in District Birbhum.

In Districts Darjeeling and Midnapore were located some neolithic (pl. LXXVI A) sites at Dungra-Busti and Sindibong near Kalimpong in the former District and Bagri-dihi (pi. LXXVI B) in the latter District. In addition, the valleys of the Suvarnarekha and Pitanau of the same District were also surveyed and some quartzite pebble-tools were collected at Rangamatia, being the first site of this series in the region. Earlier, tools of this complex had been obtained from the Dhalkishore, Kangsabati and Kumari valleys in District Bankura, being a continuation of the same land-form. Besides, microliths were also collected from the ravine of Pitanau in District Midnapore and from Bondla in District Purulia.

The exploration also resulted in the discovery of a large number of sculptures and terracotta figurines variously from Districts Darjeeling (Deomani-Krishnapur), Malda (Ratnagar), Midnapore (Netai), Nadia (Bareya), 24-Parganas (Gopalpur-Hatkhola) and West Dinajpur (Jagdal). At Gopalpur-Hatkhola the Northern Black Polished Ware was also recorded.

77. EXCAVATION AT PANDU-RAJAR-DHIBI, DISTRICT BURDWAN.—The resumed excavation at Pandu-rajar-dhibi (1961-62, p. 59) by the Department of Archaeology, Government of West Bengal, under Shri P. C. Dasgupta, indicated that the occupation comprised four cultural Periods as against five determined last year. Of these, the earlier three belonged to the protohistoric period. The present excavation (pl. LXXVII A), while confirming the cultural equipment of these Periods, threw fresh light on the burial-practices (pl. LXXVIII). In Period I a fractional burial (pl. LXXVII B) showing an east-west-oriented inhumation with a few potsherds was recorded within the habitation-area itself. Belonging to Period II nine burials of three different classes were recorded: (i) extended, (ii) fractional or secondary and (iii) urn-burial (pl. LXXIX). The main components of each Period were as follows: Period I, black-and-red, grey and pale-red wares, mostly hand-made and bearing impressions of paddy-husk, etc.; Period II, micro liths (pl. LXXXI A), copper objects, channel-spouted bowls (pls. LXXXI B), painted (pls. LXXXII and LXXX1IIA) and plain black-and-red ware and black-painted lustrcus red and chocolate wares (figs. 13 and 14) with the ceramics of the earlier Period continuing and a doubtful polished stone axe; Period III, microliths, polished stone axes (pl. LXXXIII B), all the ceramic industries of the preceding Period (figs. 13 and 14) including a complete channel-spouted bowl painted in white pigment, in addition to a black-burnished ware with incised decoration, copper objects, ivory comb, terracotta figurine (pl. LXXXIV A), possibly a mother-goddess with pin-hole decoration and few iron objects. The strata were badly disturbed by later pits, some of them of considerable depth (pl. LXXX A). The occupation of Period IV was of a flimsy nature. The finds recovered were typical of the early centuries of the Christian era and included terracotta figurines

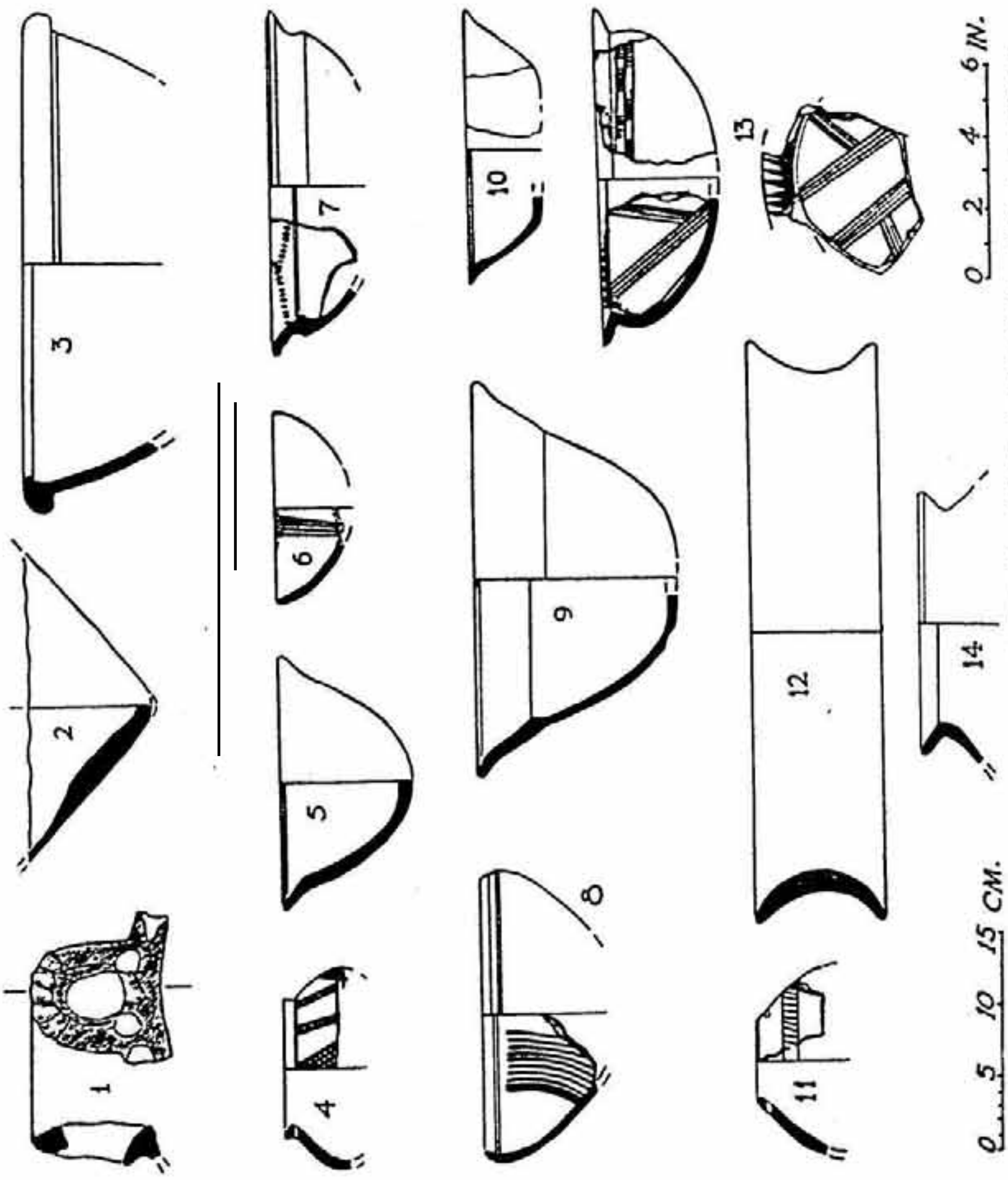


FIG. 13. *Pandu-rajar-dhibi: pottery*, 14, *Period I*, 6, 8-11 *and* 13, *Period II*, 4, 5, 7 *and* 12, *Period III*, 1-3, *Period IV*

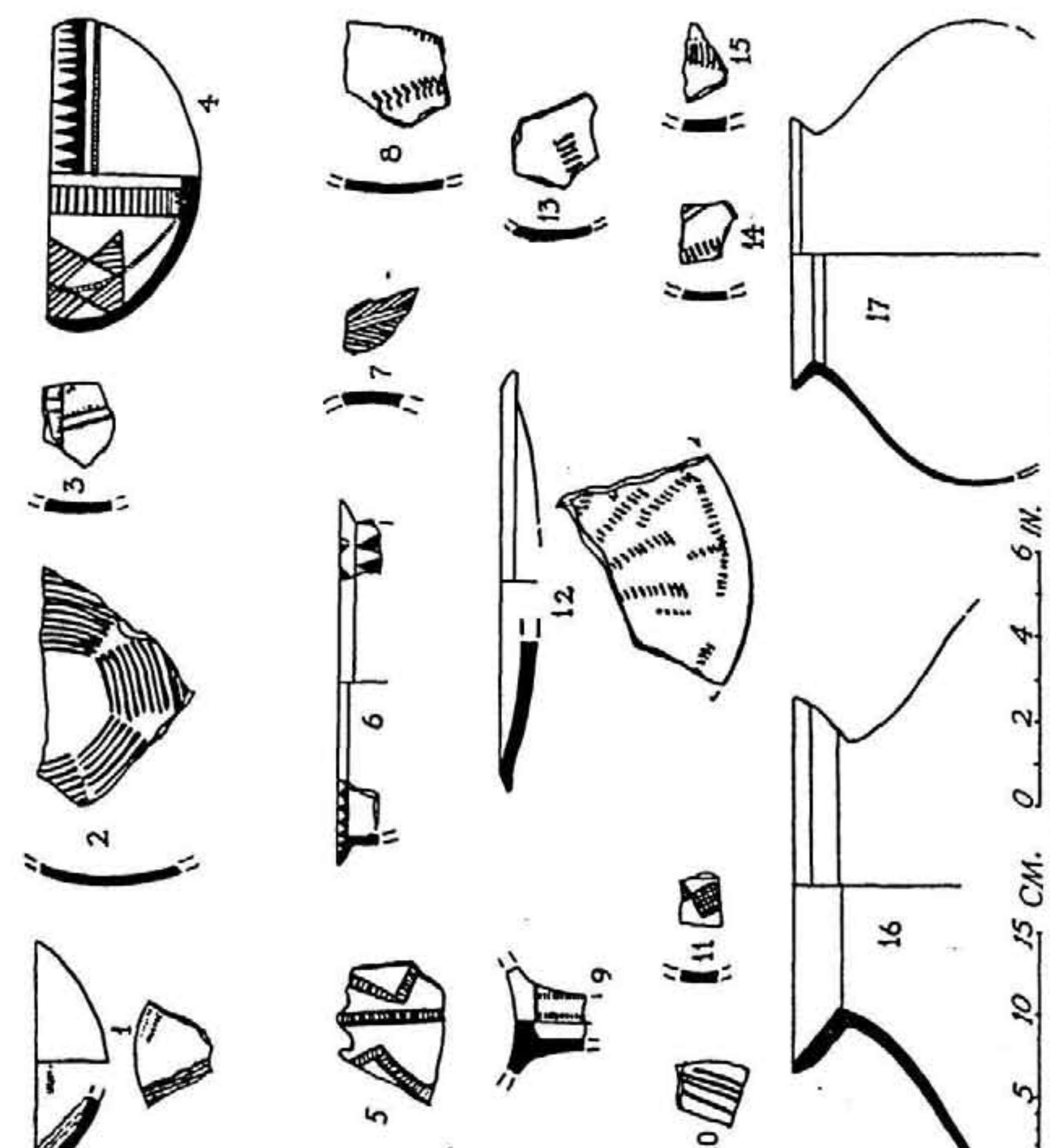


FIG. 14. *Pandu-rajar-dhibi: pottery, 1, 2, 4-7, 9-12, 16 and 17, Period II, 3, 8, and 13-15, Period III*

(pl. LXXXIV), beads, sprinkler-shaped vases, etc. The structural remains were represented by walls of baked bricks and a mud-oven (pl. LXXX B).

78. EXCAVATION AT RAJBADI-DANGA (JADUPUR), DISTRICT MURSHIDABAD.—With a view to identifying Karnasuvarna, the traditional capital-city of Sasanka with its *stupas*, monasteries and other monuments mentioned by Hiuen Tsang, the Department of Archaeology, University of Calcutta, under Dr. S. R. Das, conducted excavation at Rajbadi-danga at Jadupur, District Murshidabad. The site lies at a distance of over 1 km. from the Chiruti railway-station. The south-eastern portion of the mound with the maximum extant height was selected for excavation. The excavation revealed five phases of structures (pl. LXXXV). Noteworthy among these were: remains of a platform, two circular basements (probably of a *stupa)* (pl. LXXXVI A) and lime-plastered steps (pl. LXXXVI B) in Phase III and four square structures showing carved brickwork and having *pradakshina-patha*, etc., in Phase V. The structural remains of Phases I and II were represented by brick pavements and those of Phase IV by a wall running over the circular basements of the preceding Phase.

On the basis of terracotta sealings and figurines, Phase I could be assigned to *circa* third-fourth century and Phase III to sixth-seventh century A.D. The two subsequent Phases belonged to *circa* eighth-twelfth century A.D. Some of the seals recovered from the excavation bore the Buddhist formula and point to the existence of a Buddhist monastery. One of them, from Phase III (pl. XC D), mentioned *Rakta-mrittika-mahavihara*, described by Hiuen Tsang to be situated in the suburbs of Karnasuvarna, the capital of Gauda in the seventh century. Beautiful stucco mouldings (pl. LXXXVIII B), terracotta lamps (pl. LXXXIX), two stucco heads (pl. XC A and B) belonging to the Gupta period and a copper *chakra* (pl. XC C) of *circa* eighth century A.D., terracotta figurines (pl. XCI), including those of a votive nature (pi. XCI A) and a female deity (pl. XCI B), constituted the other noteworthy finds. Amongst pottery, mention may be made of a few sherds of grey ware, painted in black (pl. LXXXVII A), decorated ware showing such designs as crosses, triangles, wavy lines, cheques etc. (pl. LXXXVII B) and bottle-necked sprinklers (pl. LXXXVIII A). A few pieces of the Northern Black Polished Ware were also recovered from a pit, evidently out of any stratigraphical context.

79. EXCAVATION AT CHANDRAKETUGARH, DISTRICT 24-PARGANAS.—The resumed excavation (1961-62, p. 62) at Chandraketugarh by the Asutosh Museum of Indian Art, University of Calcutta, under Shri G. R. Roychoudhury, brought to light interesting information about the structural remains of the various Periods. The sequence of Periods revealed by present season of excavation was as follows. Period I, represented the level above the natural soil hitherto unplumbed due to the high water-table obtaining at the site. The finds included punch-marked copper coins with ship-motifs, cast copper coins, bone objects and the Northern Black Polished Ware. Period II, assignable to *circa* second-first century B.C., yielded a thick grey ware, terracotta objects including human figurines (p. XCIV A and B), beads and a few cast copper coins. The occurrence of tile-fragments indicated that the structures had been built of perishable material like bamboos or wood, etc., with tiled covering. Period III, datable to first to third century A.D. was characterized by the occurrence of the Rouletted Ware and exquisitely-moulded terracotta figurines showing elaborate coiffure and drapery (pl. XCIV C), and an erotic plaque (pl. XCIV D). Period IV, ranging from fourth to sixth century A.D., coincided with the Gupta period and produced, besides pottery, seals and sealings and terracotta objects (pl. XCV). Periods V and VI related to *circa* seventh-tenth century A.D.

Noteworthy structures uncovered by the present excavation included: (i) a massive brick structure built on wooden piles belonging to Period III (pl. XCII); (ii) moulded brickwork showing a series of dentils, offsets, niches, etc., of Period IV (pl. XCIII A); (iii) a circular brick basement with moulded offsets of Period IV (pl. XCIII B), and (iv) a circular brick basement of Period V. While the moulded brickwork of Period III related to the so-called Gupta temple, the circular basements of Period IV and V represented perhaps the remains of the votive *stupas.*

It may, however, be mentioned that the incidence of Periods in this season's excavation differs appreciably from that obtained last year (1961-62, p. 62). A correlation of the strata belonging to the various cuttings is, therefore, necessary for a proper understanding of the sequence at the site.

II. EPIGRAPHY

SANSKRIT AND DRAVIDIC INSCRIPTIONS[1]

ANDHRA PRADESH

1. INSCRIPTION, KALLURU, DISTRICT ANANTAPUR.—Dated Saka 1322 (A.D. 1400), this inscription in Telugu mentions Goparasu-dandanayaka, son of *mahapradhana* Baiche-dandanayaka, the famous minister of Bukka I.

2. LABEL-INSCRIPTIONS, TADPATRI, DISTRICT ANANTAPUR.—On the walls of the *agra-mandapa* of the central shrine of the Chintalaraya temple there are sculptured panels depicting scenes from the *Ramayana,* with descriptive labels below each panel in Telugu characters of the sixteenth century.

3. INSCRIPTIONS, EGUVA-BANDAPALLE, DISTRICT CUDDAPAH.—Five inscriptions, one in Kannada and the rest in Telugu, are engraved on hero-stones in characters of about the ninth century. One of the Telugu epigraphs belonging to Gandatrinetra of the Vaidumba family records the death of a warrior named Danumeti, who took part in the battle at Soramati on behalf of the Vaidumbas and Maharaja Banaraja against Rachamalla Maindadi and Dadiga. The Kannada record introduces a hitherto-unknown chief Kama-Vaidumba. Of the three other records, one refers to the death of a hero in a fight at Mudumaduvu.

4. STATE DEPARTMENT OF ARCHAEOLOGY, HYDERABAD.—About sixty stone inscriptions and a copper-plate inscription were discovered. Of the former, forty belong to the old site of Yeleswaram ; four, of the ninth century A.D., brought from Rayachoty of Cuddapah District belong to the Vaidumbas ; five, found at Malleswaram of Mahbubnagar District, belong to the Western Chalukyas of Kalyani ; and ten were found in the Devarakonda area of Nalgonda District.

5. INSCRIPTIONS, GADIGAREVULA, DISTRICT KURNOOL.—Of these the following are interesting : (1) Sanskrit record in Siddha-matrika characters of about the tenth century, mentioning Vyalasimha as a disciple of Sakalasimha-bhattaraka ; (2) a Kannada record of Chalukya Vikramaditya VI introducing his feudatory (Gova)na-chola-maharaja of the Telugu-Choda family governing Hedakal-800 division ; and (3) a record in Telugu dated Saka 1464 (A.D. 1543) of Sadasivaraya of Vijayanagara renewing the grant of the village Gadigarela situated in Pedakamti-sima of Sandanavolu-durga, originally made by Bukka-deva, to the five Siva temples of the place.

6. INSCRIPTIONS, PRAGTURU, DISTRICT MAHBUBNAGAR.—TWO inscriptions in Telugu and Sanskrit, engraved in Telugu and Nagari scripts respectively on a pillar in the *mandapa* of the Siva temple in the ruined fort, record the gift of land by Mahesvaraja-bhatara to god Lakulisa. The former is dated Saka 841 (A.D. 918-19) Pramadi. The latter containing two Sanskrit verses states in addition that the deity was housed in Brahmesvara-jagati.

[1]Information from : 4,10, 15, 42, 43 and 44, 48, Director of Archaeology and Museums, respectively of Andhra Pradesh, Assam, Gujarat, Mysore, Orissa and Rajasthan; 53, the Superintendent, Northern Circle of the Survey; and, rest the Government Epigraphist for India.

7. CHALUKYA INSCRIPTIONS, DISTRICT MAHBUBNAGAR.—Two of them from Maddurum in Kannada, refer to *maha-pradhana danda-nayaka* Rudrabhattopadhyaya as the *aradhya* of the king, i.e. Vikramaditya VI of the Chalukya family, and governor of Ayije-300 division. *Maha-samanta* Hallavarasa of Pundur and *maha-mandalesvara* Kavana-chola-maharaja of the Telugu-Choda family figure in two other records as the feudatories of the same king. The former of these two made a gift of land in Madduru and Rekaluru for worship of the god Chintaka-Rechesvara and also for the maintenance of musicians and artists. Another inscription, from Rajoli, also in Kannada, dated in the year 11 of Chalukya Bhulokamalla (A.D. 1136), records a gift of income from some taxes to god Sahasralingadeva of Polasanuru. This village is said to have been originally a *datti* of Vinaya Satyasrayadeva. The inscription refers to the three hundred *vilasinis* of the place associated with the temple.

8. INSCRIPTIONS, PILLALAMARRI, DISTRICT NALGONDA.—TWO of them, in Sanskrit and Telugu, are of the chiefs of Recherla who were subordinates of the Kakatiya kings Prataparudra I and Ganapati. They register gifts of land, etc., to several deities besides that to Erakesvara. Another, in Telugu, dated Saka 1279 (A.D. 1357), is of Kapayanayaka, brother of Prolayanayaka, the Musunur chief, whose servant Era-potu, son of Machi-nayaka of Anumakonda, had the deity of Erakesvara re-installed since it had been damaged by Alau'd-Din Khalji, the Sultan of Delhi.

9. INSCRIPTION, SULURPET, DISTRICT NELLORE.—Dated in the second year of Tri-bhuvanachakravarttigal Vijaya-Gandagopala, this Tamil inscription, in characters of the thirteenth century, records a gift to god Tirunagisyaramudaiyar by Tanikkuttukandal, wife of Rajendrasola-mummudi Vaidumba-maharajan Perumadidevan.

ASSAM

10. INSCRIPTION, DEOPANI-THAN, DISTRICT GAUHATI.—An inscription carved on the left side of a stone image of Hari-Hara records that in the kingdom of *Maharajadhiraja* Sri-Jivara a temple of Hari-Hara (Sankara-Narayana) was constructed by one Surya. The stone image is now in the State Museum, Gauhati (below, p.75).

BIHAR

11. INSCRIPTION, GAYA.—Dated Vikrama 1277 (A.D. 1219-20), this Sanskrit inscription in Nagari characters refers itself to the rule of a Sultan named Mojadina and records the performance of *sraddha-ceremony* by one Manhesvara Kama-deva.

DELHI

12. INSCRIPTIONS, NEW DELHI.—Three slabs preserved at Hauz-Khas bear inscrip tions in late ornamental Tibetan characters giving the well-known Buddhist formula *om mani-padme hum.*

GOA

13. VIJAYANAGARA COPPER-PLATE INSCRIPTION, PANJIM.—This Sanskrit charter in Nagari script belongs to the time of the Vijayanagara king Harihara II and is dated Saka

1313 (A.D. 1391). It records that the king's subordinate Madhavamantri founded the *agrahara* Machambika or Mamchalapura, named after his mother and granted it to twelve Brahmanas.

GUJARAT

14. INSCRIPTION, SANKHEDA, DISTRICT BARODA.—A Sanskrit inscription in Nagari characters on the pedestal of an image of Neminatha, dated Vikrama 1299 (A.D. 1243), records that the image was set up by Alhana for his own merit and that it was consecrated by Varddhamana-suri of Nagendra-gachchha.

15. INSCRIPTION, KUTIANA, DISTRICT JUNAGADH.—An inscription on the pedestal of the image of Parsvanatha records *Vikra--samvat* 1388 (A.D. 1331).

JAMMU AND KASHMIR

16. PILGRIM-RECORDS, AKHNOOR, DISTRICT JAMMU.—Engraved in the southern ornamental characters of about the sixth-seventh century, the inscriptions mention names like Bahuvijneya, Sukhigamti, Mahiso, Bhupamgama, Nahusha and Balasrayavirya.

KERALA

17. VATTELUTTU INSCRIPTION, PUNALUR, DISTRICT QUILON.—This inscription, en graved on the *bali-pitha* of the Trikotesvara-mahadeva temple and dated Kollam 421, (A.D. 1246) records that the object on which it is engraved was caused to be constructed by Chakrayudhan Marttandan.

MADHYA PRADESH

18. BUNDELA INSCRIPTIONS, DATIA AND SINIVAL, DISTRICT DATIA.—A number of inscriptions of the rulers of the Bundela families of Orchha and Datia, in Sanskrit and local dialect and in Nagari characters, with dates in the seventeenth and eighteenth centuries, were copied at Datia and Sinaval. They relate to the establishment of Jaina temples and donation of images of Jaina *tirthankaras.*

19. LABEL-INSCRIPTIONS, DATIA.—A number of stone images representing gods, goddesses and sages such as Haradeva, Baladeva, Gayatri, Savitri, Valmiki, Vasishtha and Visvarmitra, found in the Chhatiskoti-devata-mandir on the bank of Karnasagar, bear label-inscriptions in late Nagari characters.

20. INSCRIPTION, SINAVAL, DISTRICT DATIA.—This Sanskrit epigraph, in Siddha-matrika characters of the eighth century, engraved on the aureole of the image of Parvati kept in temple no. 76 on the Sonagir hill, records that the image was caused to be made by Vadaka, son of Simghadeva.

21. MEDIEVAL INSCRIPTION, SINAVAL, DISTRICT DATIA.—Dated Vikrama 1836 (A.D. 1779) in the reign of Satrujita, this Sanskrit inscription records the installation of an image of Jina. Satrujita is stated to be ruling from Daipa-nagara under the over-lordship of the Mughal emperor Aligaihura, i.e. Shah 'Alam II.

22. HERO-STONE INSCRIPTION, NACHNA, DISTRICT PANNA.—Shri M. C. Joshi noticed an inscribed slab dated *Vikmma-samvat* 1414 (A. D. 1357) within the Kutharagarh fort, recording the name of certain Jagata and Gendasimha.

23. TERRACOTTA SEAL-INSCRIPTION, ERAN, DISTRICT SAGAR.—The seal bears the figure of a standing Gaja-Lakshmi and an inscription below in two lines of embossed writing in characters of about the fifth century mentions *Airikina* and *Gomika.*

MADRAS

24. INSCRIPTION, TIRUVADAVUR, DISTRICT MADURAL—This Tamil epigraph in the form of a document issued by the deity Vadapurisvara records the honours and privileges-conferred on Kulainjal Achchan *alias* Alalasundaranangai, a *dasi* of the deity in recognition of her services to the temple enumerated in the inscription. Her husband's name Pattan-Devan *alias* Tennagangadevan is also given in the record. The inscription is in characters of the thirteenth century.

25. INSCRIPTION, KOVILUR, DISTRICT RAMANATHAPURAM.—Dated Saka 1303 (A.D. 1382) in the rule of Savana Udaiyar, this Tamil inscription records a resolution of a Brahmana assembly that the bridegrooms among them should pay only eight *kalanju* of gold and eight *kalanju* of silver for the jewels of the bride and that he who violates this rule will be excommunicated.

26. INSCRIPTION, ADIVARAHANATTAM, DISTRICT SOUTH ARCOT.—Dated in the rule of Kulottungachola HI, this Tamil inscription records gift of land to god Aparajita-vinnagar-alvar at Sripatadur by Aludaiyal-Ammai, a Brahmana lady.

27. INSCRIPTION, GANGAIKONDACHOLAPURAM, DISTRICT TIRUCHCHIRAPPALLI.—This fragmentary inscription from the famous temple of the place, in Sanskrit verses and in Grantha characters, refers to the exploits of Kulottunga I such as his victory over the Pandyas and the setting up of a pillar of victory and probably refers to Parasi (ka) (Persia).

28. INSCRIPTIONS, KOTTAMANGALAM, DISTRICT TIRUCHCHIRAPPALLI.—Two Tamil inscriptions in the ruined Perumal temple record gifts of land by Chakrapani Vasudevan for worship in the temple, called Vasudeva-vinnagar in one of the inscriptions dated in the seventh year of the reign of Rajakesarivarman, who is called Rajekesari-vinnagar in the other, dated in the eleventh year of the reign of Parakesarivarman. Both are in characters of the tenth century.

29. INSCRIPTION, LALGUDI, DISTRICT TIRUCHCHIRAPPALLI.—This inscription, in Sanskrit verse engraved in Grantha characters, is dated Saka 1352 (A.D. 1429) in the reign of Pratapa-Devaraya and records the grant of Tuvveli for the enjoyment of the god Saptarshinatha by Vyasa-bharati, the disciple of Ramachandra-Sarasvati.

MAHARASHTRA

30. COPPER-PLATE, ANDURA, DISTRICT AKOLA.—Dated Saka 851 (A.D. 929-30), this Sanskrit charter, in early Nagari characters, belongs to the time of Rashtrakuta Govinda IV and records his grant of the village Elauri in Vadanera three to eight hundred Brahmanas on the occasion of the *pattabandha* ceremony of his queen Bhagiyavva born of the Chalukya family.

31. KHAROSHTHI INSCRIPTION, PRINCE OF WALES MUSEUM, BOMBAY.—Engraved on the rim of a bowl stated to have been discovered in Gandhara, the inscription contains the Shahbazgarhi version of the Seventh Rock-edict of Asoka (below, p.74, and pl.C II A).

32. COPPER-PLATE CHARTER FROM SIR WALTER ELLIOT'S COLLECTION, IMPRESSIONS FROM PRINCE OF WALES MUSEUM, BOMBAY.—This charter in Sanskrit and Tamil languages engraved in Grantha characters of about the twelfth century records the grant of Chinta-kamanta *alias* Rayarpuram to Perumal Somayaji-bhatta for the merit of Rayideva by Allu-ganga, his nephew, when Vaidumba Gandadeva-maharaja was ruling from Andappur under the overlordship of Somesa, son of Rayideva, whose genealogy is traced from the Moon. Lands in the granted village were distributed by the donee among several Brahmanas.

33. INSCRIPTION, BORADI, DISTRICT DHULIA.—The record in Marathi language and Nagari characters of the fourteenth century and dated Srimukha (A.D. 1333-34) mentions *Suratana* Mahamanda, who may be the same as Sultan Muhammad bin Tughluq. It records the construction of a well and a temple by Melugideva, son of Singhanadeva, apparently members of the Seuna family (i.e. the Yadavas of Devagiri).

34. COPPER-PLATES, DIVE-AGAR, DISTRICT KOLABA.—Of the four Sanskrit charters secured from -the place, the earliest is dated in the twentyfourth year of the rule of the Western Ganga king Durvinita. Engraved in the southern alphabet of the fifth century A.D., this charter records the royal grant of land in Churura and of a tank in Kovalala-vishaya to the Brahmana Senasarman.

The second, also engraved in the southern alphabet and dated Saka 649 (A.D. 727-28) in the reign of Jayasraya Mangalarasa of the Gujarat branch of the Chalukyas, records the gift of the village Talavallika in the Pathika-vishaya by prince Dharasraya Jayasimha to the goddess Katyayani whose image was set up on the bank of the temple-tank *(deva-droni)* in Kadadroho-Votinera.

The third, in Nagari characters, records Silahara Chhittaparaja's gift of twenty *drammas* in Saka 949 (A.D. 1027-28) to Brahmana Govinda of Dipakagara for the maintenance of a garden Gummarama stated to have been given to him by *dandanayaka* Naga-yarman. The fourth, also in Nagari characters, is dated Saka 975 (A.D. 1053-54) and is in the form of *vyavastha-patra* issued by Padmaladevi and renewed by Silahara Mummu-niraja regarding the taxes to be collected from Dipakagara and other villages.

35. COPPER-PLATE, KASAR-SIRASI, DISTRICT OSMANABAD.—Engraved in the southern alphabet, this Sanskrit charter is dated Saka 619 (A.D. 697-98) and the first regnal year of the king Vijayaditya of the Chalukyas of Badami. Issued by the king from his camp at Rasenapura, the charter records the gift of the village (Ja)malagama to three Brahmanas made at the request of Narendraditya.

36. PRAKRIT INSCRIPTION, JUNNAR, DISTRICT POONA.—Engraved above the third cistern to the left of Cave 37 of Manmodi group (pi. XCVI A), this Brahmi inscription in characters of about the first century A. D. speaks of the gift *(deya-dhama)* of a cistern *(podhi)* by (La) sa of Kumi. (Cf. 1960-61, p. 46, no. 37.)

MYSORE

37. INSCRIPTIONS, GORTA, DISTRICT BIDAR.—Of the ten inscriptions, a damaged record of Chalukya Vikramaditya VI refers to his feudatory Rudra-chamupa, whose

genealogy besides that of the king is narrated. It registers several gifts of land, house-sites and money-incomes to the temple of god Rudresvara at *agrahara* Gorante. Another record of the same king states that the royal preceptor Rudramisra received the village Huliccheru as *dakshina* from the king when the latter performed several *kratus* and made over the same to the temple of Rudresvara of Gorante. Two epigraphs in the present Mahadeva temple refer to the images of Jaina deities set up by the disciples of Tribhu-vanasena-siddhantadeva and Muni Suvrata-Siddhantadeva.

38. INSCRIPTIONS, RANJOLE-KHENI, DISTRICT BIDAR.—Of the three records found here, one of Chalukya Vikramaditya VI introduces *mahamandalesvara* Bhairavadeva of the Sinda family whose members were ruling from Ranjeru in Attale-nadu. Another, .of the Kalachuri king Rayamurari Sovideva, dated Saka 1091 (A.D. 1169) registers gifts of land, flower-garden, etc., to god Brahmesvara of Ranjeru by Barmadeva-dandanayaka having received them from *mahamandalesvara* Bachidevarasa of the Sinda family.

39. INSCRIPTIONS, HARSUR, DISTRICT GULBARGA.—Two inscriptions in Kannada introduce Vira-Ramadevarasa, a member of the ruling family of Gonka-nadu in the twelfth century and record gifts to the deities Balesvara and Bhogesvara. The division over which this family held sway is variously mentioned in inscriptions from the same village as Gonkana-nadu, Gonka-nadu and Gonka-nurippattaruvattu.

40. CHALUKYA INSCRIPTION, NIPPANI, DISTRICT GULBARGA.—Dated Saka 960, Bahudhanya (A.D. 1038), in the reign of Jayasimha II, the inscription reveals for the first time that queen Somaladevi was ruling over the Alande-1000 division and records that the queen installed the image of goddess Sarasvati and that her *maneverggade* Durgga-simha built a Sarasvati-mandapa at Supani (i.e. Nippani).

41. CHALUKYA INSCRIPTIONS, DISTRICT RAICHUR.—Two inscriptions of Jagadeka-malla Jayasimha II introduce a hitherto-unknown queen of his, viz. Bijjaladevi. One of them from Sunkanur is undated and represents her as camping at Pottalakere. The other from Tadkal dated Saka 955 (A.D. 1033) records a grant of land made by her. An inscription from Daddala, dated Saka 991 (A.D. 1069-70) in the reign of Bhuvanaika-malla Somesvara II, mentions Jatachoda Bhima of Pedekal who belonged to one of the Telugu-Choda families and also introduces a *mahasamanta* Maleyamarasa of Manuve, perhaps of the Haihaya family, who is described as *Mahishmati-puravar-adhisvara.* An undated inscription of the reign of Trailokyamalla from Atnur introduces *mahasamanta manneya* Nayyaparasa, apparently of the Haihaya family.

42. INSCRIPTIONS, DISTRICTS GULBARGA AND RAICHUR.—About twenty inscrip tions were discovered, most of them of the late Chalukyan period.

ORISSA

43. JAINA INSCRIPTION, PODASINGIDI, DISTRICT KEONJHAR.—An inscribed image of Rishabhanatha is the first Jaina image so far discovered in Orissa.

44. COPPER-PLATES OF NETABHANJADEVA, NAYAGARH, DISTRICT PURL—A set of three copper-plates was discovered. There are altogether fortytwo lines of writing on them. The letters closely resemble those of other Bhanja copper-plate grants of the tenth century A.D. issued from Vanjulvaka of the Khinjali-mandala. The language is Sanskrit.

The text opens with an invocation to Hara, contained in two verses, found in all the other grants issued from Vanjulvaka. Then it gives out that the grant has been issued from the victorious camp Vanjulvaka by *parama-vaishnava* Maharaja Netabhanja.

RAJASTHAN

45. INSCRIPTION, DHOLPUR, DISTRICT BHARATPUR.—A well-preserved inscribed slab of white sandstone, containing twentysix lines in Kutila script of the post-Gupta period, was collected by His Highness the Maharaja of Bharatpur. It records the construction of a Sun temple at Dholpur, the vestiges of which are not traceable now.

46. PEDESTAL-INSCRIPTION, MENAL, DISTRICT CHITORGARH.—Dated Vikrama 1235 (A.D. 1178) and engraved in Nagari characters, this Sanskrit inscription of the Chahamana king Somesvara describes the king's exploits and states that the image on the pedestal of which the inscription occurs is a representation of himself.

47. PILLAR-INSCRIPTION, BASSI, DISTRICT NAGAUR.—Dated Vikrama 1189 (A.D. 1132-33) and engraved in Nagari characters, this Sanskrit inscription records the death of the Chahamana king Maharaja Ajayapala together with his three queens, one of them being the chief queen Somaladevi.

48. INSCRIPTIONS, MOUNT ABU, DISTRICT SIROHI.—An inscribed tablet of Vikrama 1553 (A.D. 1496), depicting a female figure—*nagara-nayika*—and another inscribed slab of Vikrama 1232 (A.D. 1175), Magha-sudi 8, were discovered and are now displayed in the art-gallery at the Rajbhavan, Mount Abu.

49. INSCRIPTION, NUN, DISTRICT SIROHI.—Dated Vikrama 1335 (A.D. 1275), this epigraph in corrupt Sanskrit and Nagari records the gift of one hundred and twenty *drammas* by Maharajakula Sri Rauta Sadhadeva for the construction of a *chaki* (for chauki—probably a seat) for the god Samgamesvara.

50. INSCRIPTION, TAWRI, DISTRICT SIRHOI.—This Sanskrit inscription, dated Vikrama 1330 (A.D. 1273), mentions Rauta Vijada and records a gift by Suvuda to a Brahmana.

51. INSCRIPTION, SURKHANDA, DISTRICT UDAIPUR.—An inscription, dated Vikrama 1493 (A.D. 1436), was discovered. It brings to light, for the first time, an independent Rathor dynasty which was in power at Surkhanda in that year.

UTTAR PRADESH

52. INSCRIPTION, ETAWAH, DISTRICT ETAWAH.—This Sanskrit inscription in Nagari characters of the thirteenth century belongs to the reign of Maharaja Ajayasimha. It records that the royal *purohita* removed the image of Durga set up in the fort and confined it in a pit *(gartta),* to be restored after the impending invasion of the *mlechchas.*

53. SANKHA-LIPI INSCRIPTION, DEOGARH, DISTRICT JHANSI.—A one-line inscription in shell-characters was noticed on the apron adjoining the stair-case of the Varaha temple at Deogarh within the fort.

54. COPPER-PLATE CHARTER, STATE MUSEUM, LUCKNOW.—This copper-plate, deposited in the Lucknow Museum, in Sanskrit and Nagari, is dated Vikrama 1283 (A.D. 1227)

in the reign of Sultan Samasadina (i.e. Shamsu'd-Din Iltutmish). The charter records the gift of money to some Brahmanas by Raula Dharanika.

WEST BENGAL

55. INSCRIPTION, INDIAN MUSEUM, CALCUTTA.—This Sanskrit inscription in Siddhamatrika characters of about the eighth century A.D. records some gifts of land and houses by Laukika and his son Mitrata to provide for worship of god Narayana in Akshayanivisthana.

OUTSIDE INDIA

56. INSCRIPTION, MANAKNAI, CEYLON.—This inscription in Tamil characters of the twelfth century is dated in the fortythird year of the reign of Jayabahudevar and records a grant of land to a monastic establishment by Mindan-Korran of Tiruppallichchivigaiyar. The land was originally granted to the donor by Gajabahudevar, and the whole transaction is stated to have been approved by Manabharanadevar.

57. CRYSTAL INTAGLIO, BRITISH MUSEUM, LONDON.—This intaglio of which the provenance is not known bears the beautiful portrait of a royal personage and an epigraph engraved negatively in the central Indian characters of about the fourth century A.D. The inscription says that the object is of Maharaja Avarighsa.

ARABIC AND PERSIAN INSCRIPTIONS[1]

ANDHRA PRADESH

1. INSCRIPTIONS, ADONI, DISTRICT KURNOOL.—One of the inscriptions registers the text of a *qaulnama* issued in A.H. 982 (A.D. 1574) by Khan-i-A'zam Ghalib Khan purporting to the remission, for a period of twelve years from the date of issue, of the law ful taxes as well as imposts in favour of the weavers and grocers carrying on business in the *pet* of Adilabad founded by the Khan on the outskirts of the *qasba* of Adoni fort. Another inscription engraved on a loose slab in the Jami' mosque at the same place assigns the construction of a strong bastion like Bhandarkal near the Ranmandal hill at Adoni in A.H. 1087 (A.D. 1676-77) to Sidi 'Ambar in the time of Mas'ud Khan.

BIHAR

2. INSCRIPTION OF SIKANDAR SHAH OF BENGAL, BHAGALPUR.—An epigraph from Bhagalpur, on a loose slab, originally recovered from Champanagar in the same District and now in possession of Shri P. C. Singh, Senior Deputy Collector, Bhagalpur, belongs to the reign of Sikandar Shah, son of Ilyas Shah. Dated A.H. 769 (A.D. 1367), it states that a mosque was built by the great Khan Taghi Khan, son of BughraKhan.

3. INSCRIPTION OF HUSAIN SHAH SHARQI, BIHAR-SHARIF, DISTRICT PATNA.—This interesting Sharqi record originally from the tomb of Fadlu'llah Gosa'in at Bihar-Sharif . (now untraceable) assigns the construction of a tomb to Maliku'sh-Sharq Bhikh Malik in A.H. 892 (A.D. 1486-87).

1 Information from the Superintendent for Arabic and Persian Inscriptions of the Survey.

4. INSCRIPTION OF FIRUZ SHAH TUGHLUQ, TAJPUR-BASAHI, DISTRICT SARAN.—This new important epigraph records the construction of a fort by Mukhlis Da'ud Khani, an official.

GUJARAT

5. INSCRIPTIONS OF THE SULTANS OF GUJARAT, DISTRICTS BARODA AND JUNAGADH.—Of the two inscriptions of the Sultans of Gujarat, one, from Somnath, is a badly-damaged record of Muhammad Shah II, recording the construction of a mosque which has been demolished in very recent times; the tablet is also lost. The other epigraph, from Sankheda, is a badly-damaged bilingual record mentioning the construction, in A.H. 921 (A.D. 1515-16) during the reign of Muzaffar Shah II, of a well and a mosque by Fath Khan, son of Rajan Khan, son of Asad Khan.

6. MISCELLANEOUS INSCRIPTIONS, DISTRICTS BARODA AND SURAT.—An inscription from a step-well at Walan, District Baroda, states that the well was constructed for public use during A.H. 910-916 (A.D. 1505-11) by Khwaja Muhammad and Khwaja Yusuf, sons of Khwaja Raja Bharuji (i.e. of Broach), and that the work was supervised by Nuh, son of Musa Barodari (i.e. of Baroda). The second inscription, from Rander, District Surat, is one of the few epigraphs of the time of the pre-Muslim rule in the province and mentions Gola (or Kola) Mu'allim, son of Hasan Khambayati (i.e. of Cambay) as having expired in A.H. 633 (A.D. 1236). The third inscription, from Surat, assigns the construction in A.H. 971 (A.D. 1563-64) of a Jami' mosque to the famous divine Sayyid Sharif Shaikh, son of Abdu'llah al-'Airdus ba-'Alawi al-Husaini.

7. INSCRIPTION OF JAHANGIR, VASRAVI, DISTRICT SURAT.—This interesting record states that the gate of the fort was built during the governorship of Shah Baig in A.H. 1029 (A.D. 1619-20). The text spells the name of the town as 'Basrahi'.

MADHYA PRADESH

8. INSCRIPTION OF 'ALAU'D-DIN KHALJI, CHANDERI, DISTRICT GUNA.—This inscription is fixed on the wall of a private house in the town. Dated A.H. 711 (A.D. 1312), it mentions Isma'il entitled Wajih-i-Najib, the *muharrir* of the district of Kol (i.e. Aligarh) as the builder of a mosque and Ikhtiyaru'd-Daulat wa'd-Din Timar Sultani as the governor of the region. It has nothing to do with Kok identified with Koka the king of Malwa.

9. INSCRIPTIONS OF THE SULTANS OF MALWA, DISTRICTS DHAR AND GUNA.—An inscription from Mandu, District Dhar, mentions Fadlu'llah Mubarak Farid Kafuri as having constructed a mosque in A.H. 817 (A.D. 1414) in the reign of Alp Khan. An interesting point of this inscription is that it gives Husamu'd-Din A'zam Humayun as the titles of Alp Khan. It may be recalled that Alp Khan is better known by his royal name Hoshang Shah and therefore this inscription furnishes important evidence about the time he might have assumed full royal insignia.

Another epigraph from Mandu is a new but badly-damaged record of Mahmud Shah I referring to the construction of some structure in A.H. 850 (A.D. 1446-47). To the same monarch belong another two inscriptions from Chanderi, District Guna, recording the construction in A.H. 867 (A.D. 1462-63) of a mosque and garden and a step-well, respectively by Muhammad Zain and Jamal, son of 'Ala. The former was an official

holding the post of *naib-i-`ard* and the latter a learned man who is mentioned in the epigraph as the second Imam Abu Hanifa.

Another inscription from the same place is a new record of Ghiyathu'd-Din Khalji registering the excavation of a step-well and the construction of a *sara'i and* a garden by its side by Malik Qadi ibn-Mihran, Mir-i-Miran in A.H. 890 (A.D. 1485-86) during the governorship of Chanderi of Sher Khan. (Cf. 1961-62, p. 88.)

Lastly, an inscription from Fatehabad near Chanderi is another record of this monarch assigning the construction of a pavilion, a step-well and a garden to the king's minister Malik Ladan entitled Shariqu'1-Mulk in A.H. 902 (A.D. 1497).

10. INSCRIPTION OF ISLAM SHAH SUR, DISTRICT GWALIOR.—This new Sur record from Gwalior registers the construction of a mosque in A.H. 960 (A.D. 1552-53) during the reign of Islam Shah.

11. INSCRIPTIONS OF THE MUGHALS, DISTRICTS GWALIOR, MORENA AND SHIVPURI.—An inscription from Faqiron-ki-Masjid at Jora-Allahpur, District Morena, belongs to the reign of Akbar and records the construction of a mosque and a well by Khwaja Qabil in A.H. 995 (A.D. 1586-87). Another record of the same emperor, appearing on the Jami' Masjid at Narwar, records the construction of a mosque during the governorship of Mirak Ahmad Khan Kulabi by Shaikh Bayazid.

Of the two records of Aurangzeb, the one from Gwalior records the building of the mosque in A.H. 1083 (A.D. 1672-73) by Kafur, while the other, from Jora-Allahpur, registers A.H. 1109 (A.D. 1697-98) as the date of the construction of a mosque during the deputy-ship of Dilair Khan-i-Niyaz.

12. INSCRIPTION OF SIKANDAR LODI, NARWAR, DISTRICT SHIVPURI.—Of the six inscriptions of Sikandar Lodi, two epigraphs furnish quite interesting information that Sikandar Lodi after conquering the fort of Narwar (transcribed in the text as 'Nalwar') designated it as Hisar-i-Muhammadi—a piece of information obtained from these records only, and ordered the construction of a mosque under the superintendence of Muqbil Khani in Shuhur 909 corresponding to A.H. 914 (A.D. 1509). These records also mention Mubarak Khan, son of Aba Bakr Khan Karrani, who was presumably the governor. A very interesting point worth notice about these epigraphs is that one of them provides perhaps the earliest instance of the use of the Shuhur era in north India. The next four inscriptions, belonging to one mosque, record its construction in A.H. 914 (A.D. 1509) after the conquest of the fort by Sikandar Lodi by 'Abdu'l-Wahhab, son of Muhammad Husaini Bukhari.

13. MISCELLANEOUS INSCRIPTIONS, DISTRICT SHIVPURI.—An inscription at Narwar, dated A.H. 962 (A.D. 1554-55), assigns the construction of a mosque and a garden to Shamshir Khan.

A record of Mir Muhammad Ma'sum Nami of Bhakkar, a nobleman, historian and engraver of inscriptions was found at Kolaras. It contains the date A.H. 1008 (A.D. 1599-1600), the signature of Nami and a verse from his *mathnavi Husn-wa-Naz.*

Of linguistic interest are two bilingual epigraphs from Sikandarpur near Narwar recording the date of death of an Armenian couple : one of them only records the name Sulaiman Baig, son of Nazar Baig, and does not give the date of his death, but as it is recorded in the second epigraph, his wife's epitaph, that he died twentyfive years before her death in A.H. 1179 (A.D. 1765), he must have expired in A.H. 1154 (A.D. 1741-42). The former has some writing in Armenian characters, while the latter has an Armenian version in Arabic script.

MAHARASHTRA

14. INSCRIPTION OF MUHAMMAD BIN TUGHLUQ, DAULATABAD, DISTRICT AURANGABAD.—A new important record of Muhammad bin Tughluq carved on two loose slabs in the fort (no more traceable) assigns the construction of a mosque to Maliku'sh-Sharq Saifu'd-Daulat wa'd-Din Qutlugh Malik Safdar, the *akhurbek-i-maisara* in A.H. 733 (A.D. 1332-33). The work was supervised by Malik Shadi, the *na'ib-i-kulwal* of Deogir. It may be noted that the name of the place is given in the epigraph as Deogir and not Daulatabad.

15. INSCRIPTION OF BAHADUR SHAH, SULTAN OF GUJARAT, BHAMER, DISTRICT DHULIA.—This new epigraph of Bahadur Shah is important in indicating the extent of the kingdom of Gujarat. Executed in crude style it assigns the construction of a mosque in A.H. 936 (A.D. 1529-30) to a lady (name not specified) who is mentioned as the mother of Dilawar Khan the martyr, daughter of Malik Ghiyathu'd-Din Khatri and wife of Alp Khan.

16. INSCRIPTIONS OF 'ADIL SHAHI KINGS OF BIJAPUR, MIRAJ, DISTRICT SANGLI.—An inscription from Miraj refers to the construction of an assembly-hall in the *dargah* of Bara Imam, platform of the *bazar* (market) and shops—which were endowed for the expenses of the mosque called Masjid-i-Safa—by Khwaja Nasir Khurshid Khan. The text of this record seems to have been continued in another epigraph, fixed in the plinth of a shop near by, which apart from the date Shuhur San [9]80, i.e. A.H. 987 (A.D. 1579-80), only contains an imprecatory text in Persian and Marathi against those who might interfere with the lighting-arrangement of the *bazar, girzi* and the dues of the attendants.

Another epigraph from the same place records the construction of a step-well for public use by a renowned official Haidar Khan, son of Malik Haidar in A.H. 993 (A.D. 1585) during the reign of Ibrahim II. According to another epigraph from the place, the building of a *namazgah* was started in the reign of 'Ali 'Adil Shah I by Sayyid Ahmad, son of Sayyid 'Alau'd-Din, but was suspended on account of the death of the latter. It was completed in A.H. 995 (A.D. 1586-87) during the reign of Ibrahim II by Sayyid Mahmud, son of Sayyid 'Alau'd-Din in compliance with an order from the minister Dilawar Khan.

Another inscription from the same place records the construction in A.H. 1064 (A.D. 1654) of the *dargah* of Twelve Imams in the time of Hasan Shah the *havaldar* during the reign of Muhammad 'Adil Shah. An inscription of the time of Sikandar Shah records that a mosque constructed in Shuhur 816 (A.D. 1415-16) was rebuilt by Asad Khan in A.H. 1096 (A.D. 1685).

17. INSCRIPTION OF FIRUZ SHAH BAHMANI, MIRAJ, DISTRICT SANGLI.—A new record of Firuz Shah Bahmani refers to the construction of a mosque by Suhail Sultani, *kutwalbek* of the city of Mubarakabad (i.e. Miraj).

18. MISCELLANEOUS INSCRIPTIONS, MIRAJ, DISTRICT SANGLI.—An inscription carved on a loose slab now lying in the compound of the Public Works Department office states that in A.H. 911 (A.D. 1506) during the time of Maliku'sh-Sharq Malik Haji Qiramani, a Jami' mosque was built and a well along with a domed building above was endowed for it. Two inscriptions from the Kali-Masjid record that the mosque was constructed by Miyan Nizam entitled Murtada Khan, son of Sayyid Muhammad, son of Sayyid 'Alau'd-Din.

MYSORE

19. MISCELLANEOUS INSCRIPTIONS, DISTRICTS BELGAUM, DHARWAR, GULBARGA AND RAICHUR.—An inscription from Koppal states that a step-well called `Qadr-Bawin' after Khwaja Qadr, was built by Shaikh Makki, the *sarkhail* of the infantry and artillery in A.H. 1015 (A.D. 1606-07) during the time of Murad Khan son of Yaqut Khan, evidently an 'Adil Shahi agent. Another epigraph from Belgaum, inscribed by 'Abdu'l-`Aziz, records the construction of some building in A.H. 1043 (A.D. 1633-34). An epitaph from Aland, District Gulbarga, dated A.H. 1067 (A.D. 1656-57), registers the death of Farhad Khan. Another new inscription, from Dharwar, mentions the name of the *havaldar* of the fort, Dhu'l-Faqar, and is dated in the Shuhur era 1071 or A.H. 1081 (A.D. 1670). An epigraph on the central *mihrab* of the Belgaum Jami' mosque is one of the best calligraphical specimens of the 'Adil Shahi inscriptions outside 'Bijapur which are usually inscribed in poor style. The name of the calligraphist occurring at the end of a Quranic text is Abu Talib, son of Musa al-Husaini entitled *Raushan-qalam*.

Lastly, an inscription fixed in the compound-wall of a temple near the Fath bastion of Raichur fort refers to the governorship of the celebrated Mughal nobleman, Nawwab Sa'dullah Khan Bahadur Muzaffar Jan. It is dated A.H. 1164 (A.D. 1750-51).

20. INSCRIPTIONS OF THE 'ADIL SHAHI KINGS OF BIJAPUR, DISTRICTS BELGAUM AND RAICHUR.—An epigraph, composed and written by Nizam a'd-Dawwani, at Belgaum, mentions A.H. 924 (A.D. 1518) as the date of the foundation of the mosque Masjid-i-Safa by As'ad Khan during the reign of (Isma'il) 'Adil Khan ; another inscription from the same place quotes A.H. 925 (A.D. 1519) as the date of its completion. It may be particularly noted that the epigraph spells the name of the famous Bijapur governor of" Bel gaum, Asad Khan, as As'ad Khan.

The inscription on the Kati gate of Raichur fort assigns the construction of a gate of the city-wall to Shamshiru'1-Mulk in Shuhur 950 corresponding to A.H. 957 (A.D. 1550) in the reign of Ibrahim 'Adil Shah I. Another epigraph of the same monarch from the same place records the construction of a gate in A.H. 958 (A.D. 1551). Three more inscriptions from the same place refer to the construction of a *diddi* (wicket) named Tawak-kul-diddi on the hill to facilitate the easy passage for the public, the *parkota* and a well during the years A.H. 990-991 (A.D. 1582-84) in the reign of Ibrahim II, by Yusuf 'Ali Khan the *qandildar* (torch-bearer). An inscription of the same ruler, from the Belgaum Jami' mosque, mentions its construction in A.H. 994 (A.D. 1585-86) by an official Sher Khan. Lastly, one inscription of Sikandar 'Adil Shah, from Raichur fort, registers the completion of the gate *dahliz* by Aqa Khusraw in A.H. 1084 (A.D. 1673-74).

21. INSCRIPTIONS OF THE BAHMANIS, DISTRICTS GULBARGA AND RAICHUR.—An epigraph inscribed on a loose slab (now untraceable) at Koppal, District Raichur, is, though fragmentary and consequently undated, quite interesting. It records that the wife of 'Azam Humayun Khawaja-i-Jahan, the minister, ordered the construction of a step-well inside the enclosure of the tomb of her husband in the reign of Muhammad Shah I. An inscription, from Raichur fort, records the name of Khan-i-A'zam Mallu Khan Hafiz as the builder of one of the gates of the city in A.H. 874 (A.D. 1469-70) during the reign of Muhammad Shah III. An epigraph, from Malkhaid, District Gulbarga, is a fragmentary record mentioning that a *hulmuk* of one of the gates of the *qasba* of Malkher was built when Maliku'sh-Sharq Khawaja Mahmud was the governor. It also men tions one *thanadarbek* of the place with the *nisba* Darabjardi.

RAJASTHAN

22. INSCRIPTIONS OF THE MUGHALS, DISTRICTS JAIPUR, NAGAUR AND TONK.—Of the inscriptions of Shah Jahan, the one from Makrana District Nagaur, records a notice put up on a step-well in A.H. 1061 (A.D. 1651) by Mirza 'Ali Baig prohibiting the low-caste people from drawing water from the well along with the people of higher caste. Another inscription from the same place records the foundation of a village and construction of a well and a mosque by Pahar Khan in A.H. 1064 (A.D. 1653-54). One more inscription of this emperor from Merta in the same District provides valuable historical information that on the death of Raja Suraj Singh, the *pargana* of Merta was conferred on Abu Muhammad 'Imad Murtada Khani who constructed a Jami' mosque in the town. It also mentions that Shaikh Taj Majdhub, a saint, had come to Merta with the official.

Among the epigraphs of Aurangzeb, the earliest one from Merta, dated A.H. 1076 (A.D. 1665), records the construction of a mosque by Haji Muhammad Sultan, son of Payanda Muhammad Bukhari, the *mutawalli* and *muhtasib* of the *sarkar* of Jodhpur. The writer's name is given as Muhammad Diya, son of Qadi Muhammad Sharif. Another record inscribed by Shah 'Ali Naqshbandi from the same place assigns the construc-tion of a tomb and a mosque in A.H. 1080 (A.D. 1669) to Shaikh Baja, son of Lakhan, the *faujdar* during the *jagir* of Maharaja Jaswant Singh. Another interesting record of this emperor's reign fixed on the facade of Damodarji-ka-Mandir, at Nawai, District Tonk, states that the tank Ramsarovar was excavated in A.H. 1083 (A.D. 1672) at the foot of the hill during the rule of Raja Ramsingh by Girdhar Das Kayasth, son of Sarangdhar of Sribas(tava) community. The text also contains two Persian poems composed by the builder. An inscription from Merta assigns the building of a mosque in A.H. 1089 (A.D. 1678) to Shamsu'd-Din of the Gaur community who was a resident of Makrana. Lastly, one of the inscriptions on the Tripolia gateway of the tank at Mozamabad in Jaipur District is a bilingual record of Aurangzeb recording the excavation of the tank and construction of the four walls and the gate by Siv (Siva) Nath, son of Paras Nath, son of Bal Nath in A.H. 1096 (A.D. 1684-85), during the government of Maharaja Ramsingh. Its text was inscribed by Mukat Rai, son of Madan Singh, son of Dayal Das of the Mahajan community, resident of *qasba* Deoband in Saharanpur *sarkar*, who had come to the place along with Jairamdas the 'amil, during the fiefship (jagir) of Mir Jalalu'd-Din Jiu and Mir Husamu'd-Din Jiu.

An inscription from Merta, dated A.H. 1134 (A.D. 1721-22) in the reign of Muhammad Shah, records the construction of a mosque and names Sayyid Muhammad, son of Sayyid Musa as the trustee.

Among the minor chiefs, an inscription from the Merta Jami' mosque is quite interesting. It states that through the efforts of Raja Dhonkal Singh, a supposed posthumous son of Maharaja Bhim Singh (1793-1803) and pretender to the chiefship of Jodhpur, and of Naukoti chiefs of Marwar region, the desolate mosque originally constructed by Aurangzeb was repaired in A.H. 1222 (A.D. 1807-08), and that defalcation or misappropriation of the rent of the shops attached to the mosque was punishable.

23. INSCRIPTION OF 'ALAU'D-DIN KHALJI, KHATU-KALAN, [DISTRICT NAGAUR.—This record of 'Alau'd-Din Khalji assigns the construction of a mosque to Muhammad son of al-Fkhri in A.H. 702 (A.D. 1302-03) ; its style of writing is remarkable for its *Kufi* flourishes.

24. INSCRIPTIONS OF ILTUTMISH, KHATU-KALAN, DISTRICT NAGAUR.—A new fragmentary record contains only the parts of the titles of Iltutmish.

25. INSCRIPTIONS OF THE KHANZADAS OF NAGAUR, KHATU-KALAN, DISTRICT NAGAUR.—Two records of this minor dynasty found on the same mosque and identical in purport record the construction of a mosque in A.H. 886 (A.D. 1482) during the time of the Khanzada chief Firuz Khan (whose genealogy is quoted in full) by Maliku'l-Umara Ikhtiyaru'd-Daulat wa'd-Din Malik Ladla Khalas, the *muqti'* of the *mu`mala* of Khattu and *akhurbek* of the royal stable. One of them further quotes the name of the supervisor of the construction which is practically the same as that of the builder except for the title Taju'd-Daulat wa'd-Din and the omission of the designation *akhubrek.*

26. INSCRIPTIONS OF THE TUGHLUQ SULTANS OF DELHI, DISTRICT NAGAUR.—A fragmentary but important record from Muluk-Talab at Khatu-Kalan, refers to the excavation and construction of a tank called Firuz-Saghar after the name of the fief-holder Maliku'l-Umara Firuz, son of Muhammad, the *shahnabek* (chief superintendent) of the royal stables. It also mentions one Malik Taju'd-Daulat wa'd-Din. One of the two inscriptions of Muhammad bin Tughluq, from the same place, records the construc tion of some building in A.H. 733 (A.D. 1333) under the superintendence of Mu'ayyad, son of Siraj, the *muharrir* of the Ajmer region when the place Khattu was included in the fief of Maliku'l-Umara Saifu'd-Daulat wa'd-Din Nanak, the *akhurbek-i-maisara* and *muqti'* of the same region.

The other record of the same monarch, from the same place, contains only part of his name and the titles of an official.

27. MISCELLANEOUS INSCRIPTIONS, DISTRICTS NAGAUR AND TONK.—The earliest record of this year's collection and also of this region is found on a ruined mosque at Khatu. It records the construction of a structure in A.H. 599 (A.D. 1203). Another inscription from the same place records the martyrdom in a religious war in A.H. 761 (A.D. 1360) of six people, one of whom according to another epigraphic record was Muhammad, son of 'Umar Bahalim. (Cf. 1958-59, p. 64.)

An epigraph from Nagaur composed and written by a well-known poet of his time, Asiri, records that an elegant structure was built in A.H. 968 (A.D. 1560-61).

Another epitaph from Nagaur records A.H. 973 (A.D. 1565-66) as the date of the death of Khanzada Jahangir Quli, son of Akbar's famous nobleman, and general Husain Quli Khan Dhu'l-Qadar.

Another unpublished epigraph of Mir Muhammad Ma'sum Nami, dated A.H. 1014 (A.D. 1605-06), is engraved on a pillar of the Jag-Mandir at Merta. It contains three verses composed and engraved by him.

An interesting example of toleration of a Hindu temple by a Muslim chief is furnished by an inscription from Nawai, District Tonk. It contains an order issued by Nawwab Mukhtiyaru'd-Daula Muhammad Shah Khan Bahadur Dargham Jang, a trusted lieutenant of Amir Khan, ruler of Tonk, impressing upon his soldiers and officers not to violate in any way the sanctity of the temple of Jalandharnath. The order is dated A.H. 1228 (A.D. 1813).

UTTAR PRADESH

28. INSCRIPTION OF `ALAU'D-DIN KHALJI, DISTRICT BULANDSHAHR.—An unpublished record of 'Alau'd-Din Khalji from Bulandshahr assigns the construction of a mosque in A.H. 710 (A.D. 1311) to Muhammad, son of Muhammad entitled Jalal who was secretary *(muharrir)* to Mahmud son of Muhammad Sultani, the *kutwai* of the place.

29. INSCRIPTIONS OF THE MAMLUK DYNASTY, DISTRICTS BULANDSHAHR AND MEERUT.—Of the three new inscriptions of the Mamluk dynasty, one, from Bulandshahr, is a fragmentary record containing parts of the titles of Iltutmish.

Another find of the year from the same place which is unique is a fragmentary epigraph pertaining to the reign of Queen Radiyya daughter of Iltutmish (pi. XCVI B). Unfortunately, the surviving portion of this only record of the queen merely contains part of her titles. It is also remarkable for its elegant and beautiful *Naskh* calligraphy.

A record from Meerut, dated A.H. 647 (A.D. 1249-50), refers to the reign of Nasiru'd-Din Mahmud, son of Iltutmish.

30. INSCRIPTIONS OF THE MUGHALS, DISTRICTS BULANDSHAHR AND MEERUT.—An inscription from Bulandshahr is an interesting record of the time of emperor Humayun. It records the construction of a mosque in A.H. 945 (A.D. 1538) by Neki Khan during the governorship *(`amal)* of a lady named Begam Dildar Aghacha. Another epigraph from the same place, dated A.H. 965 (A.D. 1557) in the reign of emperor Akbar, mentions the construction of a mosque under the supervision of Khwaja Ahmad Alahdiya Ansari, an official, when Abu'1-Fath Muhammad Mu'min Mirza was the governor. Yet another record of the same emperor from the same place records the construction of the tomb of Miyan Buhlul Khan in A.H. 1005 (A.D. 1597) at the cost of seventeen thousand *tankas.*

An epigraph of Aurangzeb from Hapur, District Meerut, states that two officials, Mirza Muhammad Murad and Sultan Muhammad Karori, carried out under the orders of the emperor the construction of a mosque in A.H. 1081 (A.D. 1670-71).

31. MISCELLANEOUS INSCRIPTIONS, DISTRICTS MORADABAD AND MUZAFFARNAGAR.—A record from Amroha, District Moradabad, assigns the building of a mosque in A.H. 965 (A.D. 1557-58) to Qinaq Khan. The construction took place in the time of Khan-i-Zaman which fact is interesting in that the ruling emperor Akbar is not mentioned. Two records from a tomb at Majhera, District Muzaffarnagar, form epitaphs of Sayyid Chhajju who died in A.H. 999 (A.D. 1591). The two inscriptions of Shah Jahan from Sambalhera, District Muzaffarnagar, identical in purport, mention Sayyid Makhan son of Sayyid Bahau'd-Din as having constructed two mosques in A.H. 1041 (A.D. 1631-32).

III. NUMISMATICS AND TREASURE-TROVE[1]

ANDHRA PRADESH

1. ASAFIA COINS, MATHWADA, DISTRICT WARANGAL.—Fortyseven Asafia silver coins were found in a treasure-trove.

MADHYA PRADESH

2. MUGHAL COIN, CHICHTOLA, DISTRICT BALAGHAT.—A silver Mughal coin of the period of Muhammad Shah was found during the construction of a house.

3. QUTB SHAHI COINS, SARRAI, DISTRICT SEONI.—Two hundred and seventyfive coins belonging to 'Abdu'lla Qutb Shah and 'Abu'l Hassan of Qutb-Shahi rulers of Golkonda were found in a pot in the bed of a nullah.

4. EARLY SAKA COIN, VIDISHA, DISTRICT VIDISHA.—The name, written in Brahmi script of the early Sunga period, of a new Saka king, Hamugama, was identified on a copper coin. Hamugama might have been a predecessor of Bhumaka belonging to the Ujjain branch of the Saka rulers.

5. EARLY COIN, VIDISHA, DISTRICT VIDISHA.—A unique coin with the legend *kanam* in Brahmi seems to be an issue by a guild of merchants at Vidisa.

MAHARASHTRA

6. BAHMANI AND VIJAYANAGARA COINS, ISAI, DISTRICT AKOLA.—A treasure-trove consisting of seven gold coins, five of Mahmud bin Muhammad and two of Devaraya II, the Vijayanagara king, was collected.

7. BAHMANI COINS, SAKOLI, DISTRICT BHANDARA.—Five copper coins, four belonging to the Bahmani Sultans of Gulbarga, were discovered.

8. VIJAYANAGARA COINS, DELGOOR, DISTRICT NANDED.—A hoard of eightynine gold coins including coins of Harihara, Devaraya, Achyutaraya, Krishnadevaraya and Sadasivaraya, the maximum number belonging to the last-mentioned king, was brought to light.

9. BAHMANI COINS, YEOTI, DISTRICT NANDED.—TWO Bahmani coins, one of gold and the other of silver, were discovered.

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1. Information from : 1, the Superintendent, South-eastern Circle, 2 and 3, the Superintendent, Central Circle of, the Survey; 4,5,14 and 15, Shri K. D. Bajpai; 6-9, the Director of Archives and Historical Monuments, Maharashtra; 10, the Director of Archaeology, Mysore; 11, the Assistant Director, Museum and Archaeology, Orissa; 12, the Director of Archaeology and Museums, Rajasthan; 13, the Director, State Museum, Lucknow.

MYSORE

10. MISCELLANEOUS COINS, NAGAMANGALA, DISTRICT MANDYA.—One hundred and fifteen copper coins belonging to the periods of Haidar `Ali, Tipu Sultan and Krishnaraja Wodeyar III were discovered.

ORISSA

11. SILVER PUNCH-MARKED COINS, BHUBANESWAR.—Silver punch-marked coins were collected.

RAJASTHAN

12. KSHATRAPA AND CHAUHAN COINS, AHORE, DISTRICT JALORE.—Three hundred and sixtynine Kshatrapa and Chauhan coins were found.

UTTAR PRADESH

13. MUGHAL COINS, ARNOTA, DISTRICT AGRA.—A hoard of one hundred and thirty-nine silver Mughal coins belonging to Aurangzeb, Shah 'Alam I, Rafiu'd-Darajat and Shahjahan II was found in a treasure-trove.

14. KAUSAMBI COINS, KAUSAMBI, DISTRICT ALLAHABAD.—The names of new Kausambi kings—Sungavarma, Sivamitra, Bhimamitra, Vachamitra and Seshadatta—were brought to light. The town-name, Kausambi, written in Sunga Brahmi characters along with the figures of Lakshmi and a bull, was noticed on a unique type of coin.

15. PANCHALA COINS, DISTRICT BAREILLY.—Coins of a new Panchala ruler, Visvamitra, were identified.

IV. OTHER IMPORTANT DISCOVERIES

ANDHRA PRADESH

1. MEGALITHIC SITE, KALYANDRUG, DISTRICT ANANTAPUR.—Shri M. Venkataramayya found sherds of the typical megalithic Black-and-red Ware and the all-black ware around the hillock to the north of Kalyandrug, already known for a dolmen and some menhirs.

2. NEOLITHIC AND EARLY HISTORICAL SITE, KAMBADURU, DISTRICT ANANTAPUR.—Shri M. Venkataramayya noticed polished stone axes and sherds of the megalithic Black-and-red, Rouletted and Russet-coated Painted Wares besides those of a black-painted red ware around the lower fringes of a hill known as Durgamkonda.

3. NEOLITHIC AND EARLY HISTORICAL SITE, CHILAMAKURU, DISTRICT CUDDAPAH.—Shri M. Venkataramayya collected a stone mace-head and sherds of the black-painted red ware as also of the megalithic Black-and-red Ware from the site of Chalukyan temples.

4. STONE AGE AND NEOLITHIC SITE, PEDDANDLURU, DISTRICT CUDDAPAH.—Shri I. K. Sharma located an extensive ancient site yielding tools of the Early and Late Stone Ages in the Kanyatirtham area near the village. Besides, he also collected: neolithic polished stone axes; microliths; and sherds of a black-painted red ware showing loops vertically drawn, lattice-patterns within horizontals and other leaf-motifs; and a coarse hand-made grey ware.

In an adjacent site," Shri Sharma also noticed a large number of megalithic burials including cairn-circles and cists.

5. MEDIEVAL CHALUKYA-CHOLA TEMPLE, JOTI, DISTRICT CUDDAPAH.—Shri M. Venkataramayya noticed a group of temples on the banks of the river Pennar. The main temple known as Jyotinathesvara belongs to *circa* thirteenth century A.D. While the interior, the door-jambs and the lintels are of the simple mouldings and do not contain any elaborate carvings, the construction of the brick *sikhara* with its elongated and vaulted *sukanasika* projection over the *antarala* presents a remarkable feature. The main *sikhara* over the central shrine is in the *dravida* type with receding tiers of *haras* and *kutas,* making a final pyramidal shape with the top coping in the typical *ratha* style. In this aspect the temple partakes of Chola shrines as influenced and developed from Pallava proto types. But the projection of *sukanasika* in the form of vaulted roof is evidently a heritage from the Chalukyan style, represented in its earlier forms at Alampur and Badami. Further, the brick structure which forms the *sikhara* and *sukanasika* is remarkable for its fine joints, number of tiers and the smooth surface of the brick. The temple, is, therefore, a representative example of the merging of Chalukyan and Chola temple-architecture.

6. EARLY HISTORICAL SITE, ADURRU AND GUDIMELLANKA, DISTRICT EAST GODAVARI.—Shri M. Venkataramayya found the megalithic Black-and-red Ware near the Buddhist *stupa* at Adurru and at Gudimellanka.

7. AMARAVATI MARBLE, GOGANAMATHAM, DISTRICT EAST GODAVARI.—Shri M. Venkataramayya noticed a piece of (Amaravati) limestone in an ancient brick structure. The occurrence of this stray piece away from its usual locus is interesting in the context of the sea-borne trade of that period.

8. RING-WELLS AND SCULPTURES, KADALI, DISTRICT EAST GODAVARI.—Shri M. Venkataramayya discovered some ring-wells and a large number of sculptures at Kadali. Among the sculptures, the Ananta-Narayana image in the temple of Kapotesvara deserves notice inasmuch as it shows development of the Nagaraja motifs, normally met with in Buddhist establishments.

9. EASTERN CHALUKYAN SCULPTURE, NAGARAM, DISTRICT EAST GODAVARI.—Shri M. Venkataramayya noticed a ten-handed stone sculpture of Virabhadra (pl. XCVII A) on the Poleramma-Dibba in the village of Nagaram in Taluk Razole. On stylistic grounds the sculpture is assignable to *circa* eleventh-twelfth century A.D.

10. JAINA IMAGE, TATIPAKA, DISTRICT EAST GODAVARI.—At Tatipaka in Taluk Razole, Shri M. Venkataramayya found a seated Jaina image in black basalt.

11. EARLY TEMPLES, BRAHMANAPALLI, DISTRICT GUNTUR.—At Brahmanapalli, about a few yards north of the main road from Dachepalli to Sattenapalli, Shri M. Venkataramayya noticed some stone temples which on the basis of style and simplicity of ornamentation can be ascribed to the earliest phase (after the fall of the Ikshvakus) of the structural temple-architecture in the Palnad area.

12. NEOLITHIC AND EARLY HISTORICAL SITE, CHEBROLU, DISTRICT GUNTUR.—With a view to assessing its archaeological importance for purposes of affording protection, Shri M. Venkataramayya further explored the site (1960-61, p. 1) and found, besides the finds already reported, a large number of terracotta figurines (pl. XCVIII) and Satavahana coins, beads, inscribed sealings, toys and limestone sculptures (pl. XCVII B and XCIX A) of the Ikshvaku period.

13. EARLY TEMPLES AND MEGALITHIC SITE, MANCHIKALLU, DISTRICT GUNTUR.—At Manchikallu, already famous as the findspot of the earliest Pallava inscription, Shri M. Venkataramayya noticed early stone temples, assignable to *circa* sixth and seventh centuries A.D. and set up either by the Pallavas or by the Chalukyas. Among the outstanding features of these temples, particular attention may be drawn to the *purnakumbha*-motifs and the friezes of scroll and lotus-pattern on the door-jambs and the lintels and the figure of a *dvarapala* carved on one of the door-jambs.

In the same area were also located a number of megalithic burials and an ancient site yielding the typical megalithic Black-and-red Ware.

14. EARLY HISTORICAL SITE, VIPPARLA, DISTRICT GUNTUR.—Shri M. Venkataramayya discovered an ancient site at Vipparla from where sherds of the megalithic Black-and-red Ware and a few fragments of a burnished grey ware were collected. The site is also mentioned in an early Pallava copper-plate inscription of the fourth century A.D.

15. ANCIENT MUD-FORT, KANUKOLLU, DISTRICT KRISHNA.—At Kanukollu where not long ago Prakrit copper-plate inscriptions of the Salankayanas, assignable to *circa* third century A.D., had been found, Shri M. Venkataramayya noticed remains of an ancient mud-fort and picked up a large number of sherds of the megalithic Black-and-red Ware and all-black ware.

16. EARLY HISTORICAL SITE NEAR AKKANNA-MADANNA CAVES, VIJAYAWADA, DISTRICT KRISHNA.—In the compound of the Akkanna-Madanna caves {*circa* sixth century A.D.) at Vijayawada, Shri M. Venkataramayya picked up sherds of the megalithic Black-and-red Ware and all-black ware.

17. EARLY CHALUKYAN BRICK TEMPLES, PITIKAYAGULLA, DISTRICT KURNOOL.-On the side of a nullah, Shri K. Raghavachari located group of brick temples which, on further examination by Shri M. Venkataramayya, were found to belong to the early Chalukyan period. The temples are characterized by moulded brickwork, plastered over in stucco, and bear ornamental friezes of geese below the moulded cornices. One of the temples is apsidal on plan.

18. NEOLITHIC SITE, PUSALPADU, DISTRICT KURNOOL.—Shri K. Raghavachari discovered at Pusalpadu an extensive neolithic site lying adjacent to megalithic burials. The site was further explored by Shri M. Venkataramayya, assisted by Shri I.K. Sharma, who picked up stone mace-heads, polished stone axes, sherds of burnished grey and black-painted red wares and the megalithic Black-and-red Ware, besides a good number of steatite discular beads (pl. C).

ASSAM

19. EARLY HISTORICAL SITE, BHATIPARA, DISTRICT GOALPARA .—Shri R. P. Das discovered the ruins of a brick temple and remnants of a flight of steps on the Mahadeva hill at Bhatipara. The site also yielded fragments of early historical pottery.

BIHAR

20. SCULPTURES, PATNA, DISTRICT HAZARIBAGH.—Shri B. K. Sharan noticed sculptures including Uma-Mahesvara, Bhairava, Bodhisattva and *linga,* etc., ascribable to the Pala period.

21. SCULPTURES, BARIJAN, DISTRICT PURNEA.—Shri B. N. Prasad found sculptures including a Surya image, votive *stupas*, etc.

22. BLACK-AND-RED WARE SITE, MANJHI, DISTRICT SARAN.—Dr. B. S. Verma noticed, sherds of black-and-red ware at the ancient mound.

GUJARAT

23. ANCIENT TEMPLE, DASRATH, DISTRICT BARODA.—A party from the Maharaja Sayajirao University of Baroda noticed an ancient brick-temple at Dasrath in Taluk Baroda.

24. SIVA TEMPLE, MEWASA, DISTRICT JAMNAGAR.—Shri M. P. Vora discovered a Siva temple of the late Maitraka period near Mewasa.

25. SIVA TEMPLE, KHERAWAR, DISTRICT SABAR-KANTHA.—Shri J. M. Nanavati, assisted by Shri M.A. Dhaky, noticed an old *panchayatana* Siva shrine at Kherawar.

26. STEP-WELL, RAJSITAPUR, DISTRICT SURENDRANAGAR.—Shri J. M. Nanavati, assisted by Shri M. A. Dhaky, found a step-well at Rajsitapur.

KERALA

27. ROCK-CUT CAVES, TRIPRANGODE, DISTRICT CALICUT.—The Director of Archaeo logy, Kerala, discovered rock-cut caves at Triprangode, over 8 km. south of Tirur in Muthuvancha-desam, Taluk Quilandy. Vessels of the typical megalithic Black-and-red Ware were also collected from the site.

28. BURIAL-JARS, KUMARAMPUTHUR, DISTRICT PALGHAT.—The Director of Archaeo logy, Kerala, noticed burial-jars at Kumaramputhur. The site was found to be extensively despoiled by quarrying-activities.

MADHYA PRADESH

29. FOSSIL, ATER, DISTRICT BHIND.—Shri J. P. Srivastava discovered a small piece of fossil in a non-implementiferous loose gravel of the liver Chambal.

30. MEDIEVAL SCULPTURES AND TEMPLES, CHAMO, ETC., DISTRICT BHIND.—A large number of stone images (mostly medieval), remains of temples and other structures were discovered by Shri J.P. Srivastava at Chamo, Chinochi, Para, Pawai, Repura and Shukalpura, all in Tahsil Bhind.

31. GUPTA AND MEDIEVAL SCULPTURES, MALLAR, DISTRICT BILASPUR.—Professor K. D. Bajpai discovered at Mallar a sculpture showing a mother-and-child (Gupta period) and an image of Durga (medieval period).

32. MEDIEVAL SCULPTURES, BAGROL, ETC., DISTRICT HOSHANGABAD.—Shri C. Krishna discovered stray sculptures of the Brahmanical and Buddhistic pantheons at Bagrol, Hirapur and Khirki, all in Tahsil Harda. The sculptures are mostly of black polished stone.

33. MIDDLE STONE AGE TOOLS, NIMAWAR, DISTRICT DEWAS.—Shri C. Krishna discovered Middle Stone Age tools and microliths on the northern bank of the Narmada river at Nimawar.

34. PROTOHISTORIC SITE, ATUD, DISTRICT EAST NIMAR.—Shri C. Krishna further explored the ancient site of Atud (1959-60, p. 69) and collected microliths and sherds of the black-painted red and chocolate-painted cream wares.

35. ANCIENT MOUND, DHARAWADA, DISTRICT INDORE.—Shri R. B. Narain collected sherds of the black-and-red, red-slipped, black burnished and grey wares from the sections of a disturbed mound at Dharawada in Tahsil Depalpur.

36. BRAHMANICAL SCULPTURES, BAHURIBAND, DISTRICT JABALPUR.—Professor K. D. Bajpai noticed near Bahuriband four interesting Brahmanical deities comprising Seshasayi-Narayana, Narasimha, four-handed Vishnu and Mahishamardini, carved in the rock and belonging to the Gupta period. From iconographic point of view the deities are akin to those carved in the Udaigiri caves near Vidisha.

37. MEDIEVAL SCULPTURES, DAIMAPUR, ETC., DISTRICT JABALPUR.—Shri C. B. Trivedi discovered a large number of loose sculptures at Daimapur, Diagarh, Khalri, Khamtara, Piparia, Tola and Umaria-pan, all in Tahsil Sihora. The images include Brahmanical gods and goddesses.

38. MEDIEVAL TEMPLE AND SCULPTURES, DEORI, DISTRICT JABALPUR.—A temple with an exquisitely-carved doorway bearing Ganga and Yamuna, *mithuna,* and *nava-graha* panel was discovered by Shri C. B. Trivedi at Deori.

39. GANDHARA SCULPTURES, GAURIGHAT, DISTRICT JABALPUR.—Professor Raj Bali Pandeya discovered stray images of Buddha and Bodhisattva made of blue schist.

40. FORTRESS, RAMPUR, DISTRICT JABALPUR.—Shri C. B. Trivedi discovered a ruined fortress of seventeenth-eighteenth century belonging to the Pindaris.

41. FOSSIL, SARRA, DISTRICT JABALPUR.—A fossil was discovered by Shri C. B. Trivedi at Sarra on the slopes of the Hardua reserve-forest in the valley of the Chhoti-Mahanadi.

42. GUPTA AND LATER REMAINS, NACHNA, DISTRICT PANNA.—Shri M. C. Joshi discovered a number of sculptures of the Gupta and Kalachuri-Chandella periods around Nachna. Noteworthy amongst these are: a miniature Gaja-Lakshmi as *lalata-bimba* on a door-frame; slabs with *vidyadhara* couple; and a square pillar base with representa-tions of Vishnu and his incarnations.

South of the village, two temples and a mosque, constructed out of the material from the existing Gupta shrines of the area, were also noticed. Further south, at a distance of about 3 km., Gupta and post-Gupta pillars, a *chaturmukha-linga* and a door-frame with *matrikas* and other deities were found within the old Lakhura fort.

43. CEMENTED GRAVEL AND TOOLS, AMARMOW, DISTRICT SAGAR.—Shri C. B. Tri vedi noticed pieces of cemented gravel and a handaxe at Amarmow. Near it he also located natural caves.

44. MIDDLE STONE AGE TOOLS, AKHRAR, DISTRICT SHAHDOL.—Shri C. B. Trivedi discovered Middle Stone Age tools at Akhrar in the bed of the river Chhoti-Mahanadi.

45. MEDIEVAL SCULPTURES, BILASPUR, DISTRICT SHAHDOL.—Several sculptures including a Virasana-devi were discovered by Shri C. B. Trivedi.

46. BHARHUT SCULPTURES, BHATANWARA, DISTRICT SATNA.—Professor K. D. Bajpai discovered a complete Bharhut lintel depicting the procession of elephant-riders.

47. GUPTA SCULPTURES, VIDISHA.—Professor K. D. Bajpai noticed a highly artistic Vishnu head of the Gupta period and a complete statue of Surasundari.

MYSORE

48. LATE CHALUKYAN TEMPLES, KALKERE, ETC., DISTRICT DHARWAR.—The Director of Archaeology, Mysore, noticed late Chalukyan temples at Kalkere, Kembhavi and Naragal. At Kalkere, one of the temples was marked by a triple shrine. The temple at Kembhavi, though mostly in ruins, was distinguished by an interesting plan comprising a central *garbhagriha* with four other *garbhagrihas*, *sukanasis*, *navarangas,* etc., on the four sides. The peculiar feature of the temple at Naragal was its sloping roof made of long slabs.

49. CHALUKYAN TEMPLE, MALKHAID, DISTRICT GULBARGA.—The Director of Archaeology, Mysore, noticed a temple of the Chalukyan period having a large *navaranga* with thick lathe-turned pillars at Malkhaid in Taluk Gulbarga.

ORISSA

50.. SCULPTURES, DISTRICT KORAPUT.—Shri A. K. Rath noticed a Vishnu image and a stone inscription in the Kutila script in the Kesaribeda Adibasi Colony. From the excavated material of the Daya canal he also recovered images of a *yaksha* of *circa* second century B.C. and Tara of *circa* ninth century A.D.

RAJASTHAN

51. ROCK-SHELTERS AND EARLY STONE AGE TOOLS, BAIRAT, DISTRICT JAIPUR.—Shri K. N. Dikshit discovered a few rock-shelters without paintings or engraving in the granitic hills at Bairat, known as Bijak-ki-Pahari, Ganesh-Doongri and Bhim-Doongri, the last-mentioned shelters also yielding a microlithic core and an ovate. He also found Early Stone Age tools consisting of a handaxe, ovates and flakes in the vicinity of a nullah near Ganesh-Doongri.

UTTAR PRADESH

52. PAINTED GREY AND N.B.P. WARES, KHERA, DISTRICT ALIGARH.—Shri L. M. Wahal discovered sherds of the Painted Grey and Northern Black Polished Wares at Khera in Tahsil Koil.

53. N.B.P. WARE, SATON, DISTRICT FATEHPUR.—Shri L. M. Wahal reported the occurrence of the Northern Black Polished Ware at Saton.

54. MICROLITHIC SITES, BISHAMBHARPUR-SANI AND NIAON, DISTRICT GHAZIPUR.—Shri R. G. Pandeya found microliths at these sites.

55. N.B.P. WARE, BAIRI AND SANON, DISTRICT KANPUR.—The Northern Black Polished Ware was noticed by Shri L. M. Wahal at Bairi and Sanon in Tahsil Kanpur.

56. MEDIEVAL SCULPTURES, JINDAUR AND KHARAHUWAN, DISTRICT LUCKNOW.—Buddhist and Brahmanical sculptures were discovered by Shri S. B. Singh at Jindaur and Kharahuwan in Tahsil Malihabad.

57. MEDIEVAL MONUMENTS WITH INSCRIPTIONS, DISTRICT LUCKNOW.—Shri S. B. Singh observed several medieval monuments at Kakori and Malihabad. One of the monuments at the former place and two at the latter carry Arabic and Persian inscriptions.

58. PAINTED GREY AND N.B.P. WARES, LAKSHMAN-TILA, LUCKNOW.—Shri S. B. Singh discovered the Painted Grey and Northern Black Polished Wares at Lakshman-tila, Lucknow.

59. PAINTED GREY WARE AND OCHRE-COLOURED WARE, JHINJHANA, DISTRICT MUZAFFARNAGAR.—Shri S. K. Rishi located ancient mounds yielding the Painted Grey Ware at Jhinjhana (pi. CI A) and Kairana (pi. CI B), both about 11 km. from Shamli. In addition, a few sherds of the ochre-coloured ware were also collected from the former site.

60. SCULPTURES, DARIYASHWAR AND SARENI, DISTRICT RAE-BARELI.—Professor K. D. Bajpai noticed interesting medieval sculptures at Dariyashwar and Sareni.

61. INSCRIBED MEDIEVAL SCULPTURES, KHAIRABAD, DISTRICT SITAPUR.—Shri S. B. Singh discovered three images of *tirthankaras,* Mahavira and Vimalanatha at Khairabad, dated *samvat* 1481 and 1525.

62. SCULPTURES, NEWAL, DISTRICT UNNAO.—Professor K. D. Bajpai discovered some beautiful sculptures and terracotta figurines of the Gupta and early medieval periods at Newal.

WEST BENGAL

63. MICROLITHS, BAKRESWAR AND KRISHNANAGAR, DISTRICT. BIRBHUM.— Shri S. K. Mukherjee picked up several microliths and waste flakes from Bakreswar and Krishnanagar.

64. BLACK-AND-RED WARE SITES, KOTASUR AND MAHISHADAL, DISTRICT BIRBHUM.— Shri V. Sen reported the occurrence of sherds of the black-and-red ware, a doubtful piece of the Northern Black Polished Ware and a few waste flakes from Kotasur. A further examination revealed the existence of vessels with channel-spouts and pieces of grey ware.

Shri R. P. Das discovered sherds of the black-and-red ware, similar to those found from Panduk and Nanur, at a mound on the outskirts of Mahishadal on the northern bank of the Kopai, about 3 km. north-east of Santiniketan."

V. MUSEUMS

1. RAJPUTANA MUSEUM, AJMER.—No fresh acquisition was made during the year except a few sculptures which had been long lying about unaccounted for and were now entered into and added to the collection. Two of them were noteworthy, viz. a sandstone female image of a *chauri-bearer* and an image of Bhairava, both of the medieval period.

Considerable improvement was made during the year by way of converting the godowns into galleries. This was possible with the financial help given by the Government of India. Proper classification and re-arrangement of all the epigraphical and sculptural exhibits were among the other activities of the Museum.

2. ALLAHABAD MUSEUM, ALLAHABAD.—The Museum acquired one hundred and ninety terracottas, fiftyeight sculptures, eightyeight copper and silver coins, thirtyseven seals and sealings and one hundred and nineteen beads from ancient sites like Kausambi, Bhita, Ahichchhatra and Jhusi.

Amongst the terracottas, two were specially noteworthy, viz. a plaque from Kausambi, depicting the scene of the abduction of Vasavadatta by Udayana and a large plaque of the Gupta period, from an ancient site near Chandausi, showing the killing of demon Pralamba by Krishna and Balarama. Another notable acquisition, from Jhusi, was an ivory piece depicting a standing couple. An ancient copper sword, of a very rare type, was also acquired from District Moradabad. .

A re-arrangement of archaeological galleries was undertaken during the year. The exhibits were displayed in two clear groups: (i) from the third century B.C. to the fifth century A.D., and (ii) from the sixth century to the twelfth century A.D.

3. GOVERNMENT MUSEUM, ALWAR.—Pedestals for the sculptures and inscriptions were prepared, keeping in view the size and the height of the objects to be put on display. The exhibits before display were cleaned chemically. The archaeological section of the Museum was completely re-organized and measures for the safety of the exhibits taken.

4. ARCHAEOLOGICAL MUSEUM, AMARAVATI.—Three gold, one silver and two lead coins, in addition to some other antiquities, were acquired for the Museum. The exhibits, added to by some more sculptures from the reserve-collection, were re-arranged in the main hall. The work of accessioning and card-indexing of the antiquities was in progress.

5. SHRI BHAVANI MUSEUM AND LIBRARY, AUNDH.—The fresh acquisitions included thirtytwo copper coins of which twentyfive were obtained from Shri J. B. Wach, a teacher at Mayani, Taluka Khatav, District Satara, about five hundred potsherds, beads and bangles. Stone tools were collected from an ancient site and from the valley at Aundh. A collection of thirty letters from eminent persons in India was obtained from Shri V.B. Tanawade, a teacher at Kuravali, Siddheshwar Taluka, Khatav, Disrict Satara. Shri A.B. Mankkapure of New Delhi donated two of his paintings to the Museum.

6. GOVERNMENT MUSEUM, BANGALORE.—Sets of plaster-casts of Harappan objects and Indian sculpture were purchased from the National Museum, New Delhi. A few

Paharpur antiquities were obtained from the Director General of Archaeology. All the sections of the Museum underwent a thorough re-arrangement. Arrangements were made for exhibitions and film-shows for public education.

7. MUSEUM AND PICTURE-GALLERY, BARODA.—Only two sculptures were freshly collected, one from Saurashtra and the other from south Gujarat. Show-cases for the Akota bronzes and Gupta and medieval sculptures underwent a thorough renovation. This modernization was made possible by financial assistance from the Government of India.

8. STATE MUSEUM, BHARATPUR.—Re-organization was accomplished during the year with the aid received from the Government of India. Stone sculptures were provided with wooden pedestals and inscriptions were properly displayed. Paintings were mounted and framed for display.

9. STATE MUSEUM, BHUBANESWAR.—Four copper-plate charters and one hundred and thirtyone palm-leaf manuscripts were acquired. The armoury section was completely re-arranged with new pedestals and show-cases. An all-round improvement was attempted in all the section.

10. BHUJ MUSEUM, BHUJ.—With Central assistance the sculpture-gallery was reorganized with new pedestals. Dioramas were also prepared.

11. ARCHAEOLOGICAL MUSEUM, BIJAPUR.—This Museum was taken over by the Archaeological Survey of India and some preliminary re-arrangements were made in the paintings and chinaware galleries.

12. GANGA GOLDEN JUBILEE MUSEUM, BIKANER.—Sixteen miniature paintings of Mughal and Rajasthani schools, such as Bikaner, Bundi, Jodhpur, etc., representing *raginis, nayikas* and scenes from the *Ramayana, Bihari-Sastsai,* etc., were acquired. Decent show-cases with lighting-arrangements were provided in the armoury and bronze sections.

13. ARCHAEOLOGICAL MUSEUM, BODH-GAYA.—A terracotta seal and a stone gargoyle, both belonging to the tenth-eleventh century, were added to the collection. Some exhibits were displayed in remodelled show-cases.

14. PRINCE OF WALES MUSEUM OF WESTERN INDIA, BOMBAY.—The most outstanding acquisition during the year was a Gandhara stone begging-bowl, presented by Shri N. Boman Behram with a Kharoshthi inscription (pl. CII A), which was a copy of the Seventh. Rock-edict of Asoka of the Shahbazgarhi version (cf. above, p. 52). Another important acquisition was a jeweller's mould in stone of the Kushan period having designs of ornaments on all the six sides. It belonged to the late Dr. W. Vost of the Indian Medical Service. Lady Cowasjee Jehangir made a gift of ten Gandhara stone sculptures, eight stuccos, three Chola sculptures, an Orissan sculpture and twelve bronzes of various schools. His Beatitude Archbishop Mar Makarios, President of Cyprus, presented an amphora from Cyprus of eighth century B.C. to Shri H. K. Chainani, then Governor of Maharashtra, who, in turn, presented it to the Museum.

15. ARCHAEOLOGICAL SECTION, INDIAN MUSEUM, CALCUTTA.—Owing to the emergency, some rooms and galleries had to be vacated. This hampered the process of rearrangement and modernization that had been in progress.

Among the fresh acquisitions, the following were noteworthy: four votive tablets of about the eighth-ninth century from Ladakh area, presented by Captain R.N. Ghosh

of Meerut; a carved brick from Assam of about the thirteenth century; a Buddhist metal image of medieval period from Nepal, presented by Shri A.C. Law of Calcutta; a neolithic celt from Amaravati; a gold coin of Akbar; and twentynine copper coins of Shah Alam II.

The pottery from Mohenjo-daro was card-indexed. The coins so far uncatalogued were re-accessioned and their classification taken up.

Show-cases in the Gandhara gallery were provided with trilingual general labels.

16. ASUTOSH MUSEUM OF INDIAN ART, CALCUTTA.—Nearly two thousand objects were freshly acquired for the Museum by exploration and purchase as well as from the excavation at Chandraketugarh (above, p. 46). They included terracottas, bronzes, stone sculptures, wood-carvings, coins, beads, paintings, textiles, etc. Two terracotta inscribed sealings from Chandraketugarh deserve special mention, as they depicted the masted-ship motif. This is an evidence of the brisk maritime activities in the early centuries of the Christian era.

Iconographically the following are of special interest: a sixteen-handed Mahisha-mardini; a seated Ganesa from Bengal; a multi-headed Lokesvara from Nepal; and a pair of seated Jaina *tirthankaras.*

Since the Museum moved into its new premises it has undergone a progress in re-organization involving the re-arrangement and modernization of galleries, installation of new paintings, show-cases for bronzes and coin-explanatory material. Publication of five sets of coloured picture-postcards on the scroll and *pata* paintings of Bengal and Orissa, twelfth-century manuscript paintings of Nepal and two profusely illustrated catalogues of early Indian coins and folk-art, completion of a fully-equipped photographic laboratory and the setting up of a small auditorium equipped with latest audio-visual apparatuses were some of the more important activities in the educational field.

17. STATE ARCHAEOLOGICAL GALLERY, WEST BENGAL, CALCUTTA.—The Gallery was formally inaugurated on the 25th June, 1962, to house objects collected by the State Department of Archaeology. The collection was being enriched day by day and included stone sculptures (pl. CII B), terracottas, bronzes, wood-carvings, ivory pieces, coins, inscriptions, paintings, textiles, etc. Palaeoliths from the Kangsavati valley and Mayurbhanj, microliths, neoliths and chalcoliths as well as early historical pottery also formed part of the rich collection.

18. BHURI SINGH MUSEUM, CHAMBA.—Eleven Pahari paintings, two old sketches, a door containing nineteenth-century paintings, a Chamba *rumal* and a sculpture in relief were added to the Museum. A Basohli painting of 'girl on swing', belonging to *circa* 1740, was an exquisite piece.

The Museum staff discovered beautiful sculptures of Venu-Gopala and Vishnu, of the fourteenth or fifteenth century, in village Tikri-Garh of Churah Tahsil in Chamba District. Arrangements were made for the transfer of the sculpture of Venu-Gopala to the Museum for preservation and display.

19. STATE CHANDRADHARI MUSEUM, DARBHANGA.—New acquisitions during the year included fourteen pieces of the Northern Black Polished Ware, a polished old pitcher, a copper coin belonging to Babur and fortyeight manuscripts. Notable among the manuscripts were two of the *Harivamsa* dated Saka 1674 and 1779, the scribe of the first of these being one Dhanuka, a 'touchable Sudra' *(sachchhudra),* the *Tantrasara* by Mahamahopadhyaya Krishnanand Vagish and a set of almanacs and horoscopes of nineteenth century.

20. ARCHAEOLOGICAL MUSEUM, RED FORT, DELHI.—A marble stone inscription of Bahadur Shah II, the last Mughal emperor, was displayed in the gallery on a suitable pedestal. Some exhibits were provided with bilingual labels in English and Hindi. Eight thousand, one hundred and fortyfive coins were classified and index-cards prepared for them. The catalogued coins of the Museum were recorded in the consolidated register of coins. Four hundred and fortyfive punch-marked coins from the Bhir Mound hoard belonging to the Safdarjang Collection of Antiquities were classified and catalogued by the Curator.

21. STATE MUSEUM, GAUHATI.—Fresh acquisitions included two stone images one of Vishnu found at Deopani-Than and the other of Uma-Mahesvara of unknown findspot. The latter is a fine specimen of Assamese art of the tenth-eleventh century. A stone inscription, dated Saka 1675, of the Ahom king Rajesvarasimha (1751-69) was another acquisition. It records the construction of a tank associated with a *nava-graha* temple located in the eastern part of Gauhati (cf. above, p. 49).

22. CENTRAL ARCHAEOLOGICAL MUSEUM, GWALIOR.—The new additions to the Museum included six cannon brought from Sabalgarh fort, District Morena, and two medieval stone images from Boshad, District Bhind. One represented standing Siva holding *kalasa* in one hand, the other three hands being broken, with *nandi* sitting at his feet. The other image represented Siva and Parvati with Ganesa and Skanda on either side, all except Ganesa with their respective *vahanas.* Improvement in lighting-and display-arrangements and re-organization of the various galleries were among the chief activities of the Museum during the year.

23. ARCHAEOLOGICAL MUSEUM, HALEBID.—The sculptures collected from the protected monuments and brought to the open-air museum inside the Hoysalesvara temple-compound were arranged in a chronological order.

24. STATE MUSEUM, HYDERABAD.—As many as one thousand, one hundred and ninetynine coins were added to the cabinet. Of them, three hundred and twentysix were of gold, ninetyone of base gold, two thousand, five hundred and eightynine of silver, sixteen of base silver, four thousand and thirtysix of copper, three thousand and eighty-three of lead, fortyone of nickel, fifteen billion and one potin. Other additions included fortythree paintings representing various schools. Plaster-casts of some finds of Mohenjo-daro and Harappa were acquired from the National Museum, New Delhi.

A set of twentyfour charts showing development of various scripts in ancient India was acquired and displayed. A grant from the Government of India enabled the Museum to re-organize its galleries on modern lines.

25. CENTRAL MUSEUM, JAIPUR.—Re-organization was in progress and the work in the lower galleries was completed. A panoramic view of the culture of Rajasthan in all its different phase was presented. Fresh acquisitions included two small paintings of *raginis* of the Mughal school belonging to early seventeenth century, thirty paintings representing different sub-schools of Rajasthan, two paintings depicting scenes from the *Ramayana* and belonging to the Deccan school, a manuscript of the *Kalpasutra* in silver letters on a red background and some paintings on cloth belonging to the Deccan school.

26. SARDAR MUSEUM, JODHPUR.—The fresh acquisitions included a bust of Vishnu of the twelfth century, a standing wooden figure with a smiling face and six miniature

paintings of the Jodhpur school, representing chiefs and nobles of Marwar. Re-organization work was continued with aid received from the Government of India.

27. ARCHAEOLOGICAL MUSEUM, KHAJURAHO.—Twelve fragmentary pieces of railings from Bharhut, District Satna, Madhya Pradesh, and eighteen sculpture from Sakrar, District Jhansi, besides twelve more pieces of sculptures enriched the collection of the Museum.

28. MUSEUM, KOLHAPUR.—Fresh acquisitions included a stone inscription discovered at Herle, Taluka Hatkanangle, District Kolhapur, a grinding-stone discovered from a house in Shivaji-Peth, two Chhatrapati copper coins and presented by Shri Rajshekhar Patravali of Bombay and five lead coins of the Satavahana period found at Nerle and presented by Dr. G.V. Tagare.

29. MUSEUM AND SARASVATI-BHANDAR, KOTAH.—The archaeological section of the Museum was enriched by the addition of a *yantra-raja,* weighing 9.85 kilograms, received from the Collector of Kotah, and ten stone sculptures belonging to the tenth century, collected from the villages of Kakooni, Shahabad, Ramgarh and Barakhera in Kotah District. Re-organization work was also accomplished. Descriptive labels, both in Hindi and in English, were provided.

30. STATE MUSEUM, LUCKNOW.—Six hoards of coins in the coin-collection of the Museum were scientifically examined and classified. The Agra hoard of one hundred and thirtynine silver coins was found to be very important as it included coins of Aurangzeb, Shah 'Alam I Bahadur, Rafiu'd-Darajat and Shah Jahan II. No fresh coins were acquired, but out of the existing stock seventysix coins were sold to public. Revised and improved labels were provided to the exhibits in the archaeological section. A female terracotta head of the Gupta period and twelve terracotta seals were among the fresh acquisitions.

31. FORT ST. GEORGE MUSEUM, MADRAS.—The important acquisitions included ten medals of the Indo-British period and eleven porcelain objects. The recesses in the galleries on the first floor were covered with painted masonite boards to give a uniform wall-surface. The silver plates belonging to different churches were classified church-wise and re-displayed in separate show-cases. Two galleries, one for the prints and the other for the manuscripts, were thrown open to the public after re-organization. Six old show-cases were renovated for display of army-uniforms.

32. GOVERNMENT MUSEUM, MADRAS.—The fresh acquisitions in the archaeological section included six metal images representing Vishnu, Krishna, Tirumangai-Alvar, Tripurantaka and Chakra, and two stone sculptures of Buddha and Mahavira. Besides, a set of over sixtyfive Mughal and Rajasthani paintings as well as Buddhist and Jaina manuscripts were presented to the National Art Gallery by Shri V.T. Krishnamachari. The display of the metalware of the Industrial Art Gallery was partly modernized. Also a new building for displaying bronzes now kept in the reserve-collection was constructed. Arrangements are being made to display these bronzes therein.

In the prehistory section the new acquisitions included three palaeoliths from Attirambakkam, three neolithic celts from Mohanur and eleven glass beads from Oda-thurai.

33. ARCHAEOLOGICAL MUSEUM, MATHURA.—Twentyfive objects were freshly acquired for the Museum. Bilingual labels were provided to the exhibits. Re-organization and chemical treatment were carried out on a large scale.

34. DEPARTMENT OF ARCHAEOLOGY MUSEUM, MYSORE.—Sets of plaster-casts of Harappan art and Indian sculptures through the ages as also copper coins of late Bijapur Sultans were included in the year's collection.

35. ARCHAEOLOGICAL MUSEUM, NAGARJUNAKONDA.—A number of antiquities, two stone images *of nandi,* twelve bricks, two bowls, eight pots and jars, one hundred and seventyfive terracottas and one stucco piece were accessioned.

36. CENTRAL MUSEUM, NAGPUR.—A copper-plate inscription of the Rashtrakuta ruler Govinda IV dated Saka 852, discovered at Andura in Akola District, was a note worthy acquisition during the year. Ten terracotta pieces from Paharpur were received on loan from the Director General of Archaeology in India for display in the Museum. A large number of coins were received as treasure-trove finds. They included a hoard of six hundred and fiftynine copper coins of Bahmani rulers discovered at Nawegaon in 1949, ten specimen coins of a hoard of copper coins of the Qutb Shahi rulers discovered at Malijam, Taluka Kinwat, District Nanded, over 20 kilograms of copper coins of Bahmani rulers discovered at Virur, Taluka Rajura, District Chanda, and three hundred and fiftysix silver Gadhaiya coins discovered at Risod, Taluka Washim, District Chanda. All the coins were chemically cleaned and are being studied.

37. NATIONAL MUSEUM, NEW DELHI.—The prehistory section of the Museum was augmented by typical specimens from some of the prehistoric sites in the Bellary-Kurnool-Madras region as a result of an exploratory tour conducted by the Archaeological Survey of India in which the Museum participated. The representative collection of the palaeo lithic material included cores and pebble handaxes, chopper-chopping tools and flake implements associated with all of them. Through purchase and gifts the following were acquired: about one hundred sculptures of the Pala, Chola and other schools (pl. CIII A and B) ;two thousand, seven hundred and twentysix Tribal, Pallava, Chola and Mughal coins, including a unique coin from Ladakh; one thousand, seven hundred and nineteen paintings including a set of fiftynine from Kishangarh, depicting mainly scenes from Krishna's life, and a set of one hundred and sixtyeight Basohli miniatures on themes from the *Ramayana;* one hundred and eight manuscripts, including a beautifully-illustrated Grantha-Saheb; six hundred and eight objects of applied art, including wooden plaques from Trivandrum, ivory boxes and chessmen; six hundred and thirty textiles; and one hundred and ninetyone arms, including a large variety of swords and daggers. In the anthropology section a new exhibition-gallery showing Indian folk musical instruments, dancing masks and tribal life through selected photographs was added.

The year's most important work was done at the Rang-Mahal, the painted palace of Raja Charat Singh (1808-44) at Chamba, Himachal Pradesh, which is now dilapidated. Since any serious repairwork to render it habitable would have caused total destruction of the most precious and delicate polychrome paintings of the Pahari school with scenes, normally from the life of Radha and Krishna, on the cracked wall-plaster that had loosened almost everywhere from the stonework, it was decided to remove the paintings. The preservation department of the Museum removed one hundred and thirtyfour panels, ranging in size from 30x30 cm. to 2.75 X 1.40 m., for treatment, preservation and presentation. A documentary film in colour, showing the process of

removal and preservation of these mural paintings, was prepared in collaboration with the Archaeological Survey of India.

38. PANJAB MUSEUM, PATIALA.—An archaeological cell was established in the State Museum to form the nucleus of the State Department of Archaeology. A Jaina image of Adinatha, about four hundred years old, was received as a gift from Vasupujya of Jaina Svetambar Mandir Prabandhak Committee, Patiala. Shri S. S. Talwar presented some pottery-pieces, microliths and specimens of charred wheat discovered at the ancient site of Navdatoli. He also gave some stone tools collected from the nullahs of the Narmada near Maheshwar.

39. PATNA MUSEUM, PATNA.—Twenty stone sculptures, fifteen earthenware objects, one hundred and eightynine coins and three manuscripts were among the fresh acquisitions. The most important of these is a stone sculpture of Vishnu, 2.3 m. high, of ninth-tenth century. A small figure of Avalokitesvara of about the same time was another note worthy object. The coins belonged to the Sharqi dynasty of Jaunpur.

40. RAJA KELKAR MUSEUM, POONA.—The Government of Maharashtra took over the management of this Museum for a period of twentyfive years and put it under the control of Director of Archives and Historical Monuments. During the year it acquired one hundred and twelve exhibits. The Government of India sanctioned a building-grant of Rs. 25,000 for the extension of the building.

41. MUSEUM, PRABHAS-PATAN.—The sculpture-gallery was re-organized and pedestals were constructed through Central assistance.

42. ARCHAEOLOGICAL MUSEUM, UNIVERSITY OF SAUGOR, SAGAR.—In all ninetytwo antiquities, mostly sculptures from the Sagar Artillery Mess and other sites of the District, were added to the Museum. Mention may be made of a figure of Skanda-mata (pl. CIII C), of the late Gupta period, with a halo and *jata-mukuta* tastefully done having the *vahana* bull seated on the pedestal. An interesting figure of Varahi standing on tortoise and another piece of a door-jamb showing Ganga with her attendants were other notable acquisitions.

To the coin-cabinet of the Museum were added Kausambi, Panchala and Vidisha coins presented by Professor K.D. Bajpai. Some copper coins of the Yaudheyas the medieval dynasties and of the Muslim Sultans of Delhi were presented by Shri K.B. Lal of Meerut.

43. TIPU SULTAN MUSEUM, SERINGAPATAM.—TWO prints, one showing Lord Cornwallis receiving the hostage princes, and the other is showing Seringapatam of A D 1799 were presented by the Public Library, Bangalore. A French engraving of Tipu Sultan was purchased.

44. VICTORIA HALL MUSEUM, UDAIPUR.—Pedestals and descriptive labels were pro vided to the sculptures. The site-museum at Ahar was thrown open to public.

VI. PRESERVATION OF MONUMENTS

MONUMENTS OF NATIONAL IMPORTANCE

CENTRAL CIRCLE *Madhya Pradesh*

1. KOTESVARA-MAHADEVA TEMPLE, KASHITOLA, DISTRICT BALAGHAT.—The disintegrated plaster on the walls of the temple was scraped off and the exposed surface covered with a new coat of plaster.

2. FORT, LANJI, DISTRICT BALAGHAT.—The pathways in the old fort were reconditioned by repairs at places.

3. SIVA TEMPLE, NOHTA, DISTRICT DAMOH.—Open joints in the masonry of the plinth of the temple were filled up by pointing.. The pathways were reconditioned.

4. ROCK-CUT CAVES, BAGH, DISTRICT DHAR.—Debris of fallen rock lying in front of Cave 7 was removed and the jungle in the precincts of the monuments cleared. Preliminary work to make the leaky roof watertight by chiselling off the soft material over Caves 4 and 5 for the eventual laying mass-concrete over a hard surface was in progress.

5. BHOJA-SALA AND KAMAL-MAULA'S MOSQUE, Dhar.—The exposed joints in the masonry of the apron around the monument were pointed to stop percolation of water into the foundation.

6. LAT-KI-MASJID, DHAR.—The large fragments of the iron pillar lying outside the monument were placed on a newly-built platform which was enclosed by a barbed-wire fencing. Pretty repairs to the Masjid were also attended to.

7. GROUP OF MONUMENTS, MANDU, DISTRICT DHAR.—Approach-roads to individual monuments were reconditioned. Besides extensive jungle-clearance from and around the monuments, making the exposed wall-tops watertight was also undertaken. A fresh layer of concrete was laid on the terrace of the Ashrafi-Mahal after the picking up of the old and decayed layer.

8. GROUP OF MONUMENTS, BURHANPUR, DISTRICT EAST NIMAR.—The retaining-wall by the side of the tomb of Shah Nawaz Khan, the construction of which had been taken up last year (1961-62, p. 117), was carried up to the bed-level of the river. The sides of the platform of the tomb of Shah Shuja were replastered after removing the coat of decayed plaster. The portions where concrete was missing in the floor of the central chamber of Bibi Sahib's mosque were repaired with a fresh layer of lime-concrete duly toned to match with the existing surface.

9. KUSHAK-MAHAL, CHANDERI, DISTRICT GUNA.—The work of restoration of the central facade in the Kushak-Mahal, which had been started last year (1961-62, p. 117), was kept in progress.

10. GROUP OF MONUMENTS, FORT, GWALIOR.—The broken ends of the coloured tiles in geometrical patterns on the walls of the palace of Raja Man Singh were secured by filleting. The courtyard attached to the palace was cleared of all debris and a simple garden laid. The pathways leading to the monuments Sas-Bahu and Teli-ka-Mandir were repaired. Debris lying in front of the rock-cut Jaina colossus, locally called Mari-Mata, was cleared for a better view of the image. Rock-cut drains were provided to divert rain-water near the Urwai gate.

11. CHAUSATH-YOGINI TEMPLE, BHERAGHAT, DISTRICT JABALPUR.—The broken portions of the roof of the circular colonnade were replaced with new stones.

12. MADAN-MAHAL, GARHA, DISTRICT JABALPUR.—The walls of the monument were cleaned of all scribblings and the surroundings were rendered neat and tidy by the removal of vegetation and debris.

13. RUPNATH, PADARIA, DISTRICT JABALPUR.—The dislodged masonry in different portions of the monument was underpinned.

14. BRAHMANICAL ROCK-CUT TEMPLES, DHAMNAR, DISTRICT MANDASORE.—The work of filling in the cavities in the rock-walls of the Dharmanatha temple was kept in progress. The debris at the entrance and in the passage leading to the temple was removed.

15. NAVA-TORANA TEMPLE, KHOR, DISTRICT MANDASORE.—The condition of the pathways leading to the temple was improved by repairing at places and spreading of *bajri.*

16. SAIVITE TEMPLE, BHOJPUR, DISTRICT RAISEN.—The modern accretion in front of the sanctum of the temple was removed and the sunken stones of the platform raised to the original level. A portion of the open roof of the sanctum was covered with stone slabs. The work was kept in progress.

17. FORT, RAISEN.—The layer of disintegrated concrete on the floors of both the Baradari and Kachehri buildings was renewed with fresh concrete. The broken wall of the Motia tank was repaired.

18. BUDDHIST MONUMENTS, SANCHI, DISTRICT RAISEN.—TO stop percolation of water through the broken flagstones of the upper *pradakshina-patha* of Stupa 1, the flooring was removed and a layer of cement-concrete mixed with a waterproofing compound was laid to form an unbroken surface. The concreted surface would eventually be covered with stone slabs as before.

19. GROUP OF MONUMENTS, KHIMLASA, DISTRICT SAGAR.—In addition to the clearance of vegetation, the exposed tops of the fort-walls were made watertight.

20. TEMPLE, ASHTA, DISTRICT SEONI.—The open joints of the masonry of the plinth of the temple were filled with toned mortar.

Maharashtra

21. GROUP OF MONUMENTS, BALAPUR, DISTRICT AKOLA.—In order to check the scouring action of the river Ban, stone pitching was provided at the base of the outer fortification-wall of the fort. The undermined portion of the platform carrying the *chhattri* was repaired and the bottom strengthened by grouting the stone pitching.

22. REMAINS OF TEMPLE, PADAMPUR, DISTRICT BHANDARA.—The area of the compound around the temple was cleared of debris and vegetation.

23. MAHADEVA TEMPLE, GHOGRA, DISTRICT NAGPUR.—The disintegrated concrete over the roof of the temple was renewed with fresh concrete. The open joints of the floor ing were pointed.

24. MAHADEVA TEMPLE, RUI, DISTRICT YEOTMAL.—Fresh lime-concrete was laid on the terrace of the *maha-mandapa* and on the floor after dismantling the decayed concrete.

EASTERN CIRCLE

Assam

25. BARDOL, BISNATH, DISTRICT DARRANG.—Rank vegetation in the compound of the temple and trees too close to the structures were removed and the ground levelled and dressed up. The collapsed entrance-arch of the sanctum of the temple was rebuilt and the dilapidated flight of steps leading to the sanctum repaired. The portions of the cornice bereft of plaster were made good.

26. AHOM RAJA'S PALACE, GARHGAON, DISTRICT SIBSAGAR.—Minor repairs including the renewal of the brickwork of portions of the cornice and columns, wherever missing, and the re-laying of concrete on the floor of the second floor were carried out.

27. DEVIDOL, GAURISAGAR, DISTRICT SIBSAGAR.—The old plaster of the spire of the main temple, which had been found to be spongy and porous, was dismantled; the crevices and cracks in the core-masonry were grouted and a new coat of plaster was provided. Similar repairs to the *mandapa* are in progress.

28. SIBDOL, GAURISAGAR, DISTRICT SIBSAGAR.—The uneven ground between the temple and the Gaurisagar tank was levelled and dressed up. The decayed and broken plaster of the cornice of the temple was renewed. The southern portion of the eastern compound-wall, covered by debris, was exposed and the brickwork at the top was made watertight.

29. SIBDOL, JAYASAGAR, DISTRICT SIBSAGAR.—The cracks on the western side of the ceiling of the spire and those on the walls were grouted. The open joints of the brick work of the subsidiary third structure inside the premises of the Sibdol were made good by grouting and pointing.

30. KARENGGHAR, METEKA-BONGAON, DISTRICT SIBSAGAR.—The damaged brick work of the southern, western and northern sides of the cornice of the ground-floor of the main building was repaired and finished with a layer of lime-concrete in accordance with original. The missing brickwork of the walls of the first floor of the Prasutighar was restored to an average height of about half-a-metre. The brickwork of its ground-floor was underpinned at places. A drain was provided from the north-western corner of the palace-basement to the ancient tank for easy drainage of the water otherwise entering into the basement.

31. RANGHAR, METEKA-BONGAON, DISTRICT SIBSAGAR.—The damaged cornice of the south-western, western and northern sides of the pavilion was restored in accordance with the original work.

32. DEVIDOL, SIBSAGAR.—The spire and the cornices of the temple were cleared of vegetation and the undulated portions of the compound levelled with an outward slope and dressed up. The inner surface of the walls of the *mandapa* was treated with a coat of fresh plaster. The repairs are in progress.

33. SIBDOL, SIBSAGAR.—The special repairs to this monument following the earth quake damages were continued (1961-62, p. 119). The bulged-out and overhanging portions of the ashlar-masonry of the inner faces of the eastern, north-eastern, northern and north-western sides of the sanctum were dismantled and rebuilt up to the fourteenth course from the bottom. The work included strengthening and rebuilding of the rubble-masonry of the core and filling in the gaps between the ashlar-veneer and the rubble-core with concreted mortar. The apron of stone masonry around the temple was re paired by the restoration of the missing portions and grouting and pointing the wide joints and cracks in the masonry. The work is in progress.

34. VISHNUDOL, SIBSAGAR.—The undulating surface of the western portion of the compound was levelled to a proper slope for drainage and dressed up. The decayed concrete of the floor of the sanctum as well as of a part of the *mandapa* was dismantled and re-laid with fresh lime concrete.

Nagaland

35. FORT, DIMAPUR, NAGALAND.—The remants of the walls of the fort were cleared of rank vegetation and cracks and open joints in the brickwork of the walls were filled up by *lime-surkhi* mortar.

Orissa

36. BUDDHIST REMAINS, RATNAGIRI, DISTRICT CUTTACK.—In continuation of the earlier work (1961-62, p. 119), the damaged ashlar-facing of the walls of Monastery 1 was rebuilt to varying heights in accordance with the evidence of the extant original work. The damaged and dislocated ashlar-facing of the plinth of the front porch was restored by re-setting the old available stones in position and inserting new blocks reproducing only broad ornamental features. The damaged brickwork of cells 10,12 and 16 of Monastery 1 and of the walls and cells of Monastery 2 was rebuilt in lime-cement mortar with chiselled bricks on the veneer as in the original work.

37. ROCK-CUT CAVES, UDAYAGIRI, DISTRICT PURI.—Repairs to the approach-ramp leading to Cave 14 of Udayagiri, exposed recently (1961-62, p. 36), were taken up. The damaged laterite masonry at the top was re-set in lime-cement mortar (pl. CIV). Rebuilding of the two retaining-walls as well as of the flanks of the ramp is in progress. Guide-stones were fixed near each of the caves for convenience of the visitors.

38. SUN TEMPLE, KONARAK, DISTRICT PURI.—The work of rendering the founda tions dampproof by injecting liquid cement mixed with ironite as a waterproofing material throngh 2-5-m. deep holes drilled into the foundation-masonry at an angle of 45, started earlier (1961-62, p. 119), was continued and extended to the northern side of the temple,

West Bengal

39. GROUP OF TEMPLES, BISHNUPUR, DISTRICT BANKURA.—The brickwork of the recessed portions of the spire of the Mallesvara temple, which had fallen in patches, was rebuilt in lime-cement mortar and finished with a coat of *lime-surkhi* plaster. The exposed top of the plinth was covered with fresh lime-concrete.

The damaged stonework of the exposed plinth of the Muralimohana temple was dismantled and re-set and its terracing renewed.

The damaged plaster of the stepped spire of the Patpur temple was restored and the debris removed from the north-west and south-east area of the compound.

The compound of the Radha-Madhava temple, including the recently-acquired area, was cleared of shrubs and levelled. Removal of debris revealed the remnants of a brick enclosure-wall and the foundation of a subsidiary structure. The broken corner of the south-eastern cornice was restored with dressed laterite blocks reproducing the ornamental features in outlines. The floor of the central tower surmounting the roof was re-laid with lime-concrete. The fallen vault of the gateway was rebuilt with special-sized bricks in lime-cement mortar. Portions of the ornamental brick pillars at the corners were also restored. The debris covering the floor of the *bhogasala* was removed and the damaged brickwork of the extant walls and plinth renewed.

The damaged vaults of the corridors around the central chamber of the southern portion of the Jora-Mandir were dismantled and rebuilt with laterite stones. The decayed concrete over the roof-terrace was replaced with fresh lime-concrete. The missing slabs of the cornice were restored by new ones reproducing the ornamental features.

40. JAYADEVA TEMPLE, KENDULI, DISTRICT BIRBHUM.—The construction of the retaining-wall and rendering the space between the temple and the retaining-wall watertight, which had been undertaken last year (1961-62, p. 120), were completed.

41. TEMPLE OF ICHAI GHOSH, GAURANGAPUR, DISTRICT BURDWAN.—The compound of the temple was levelled and dressed up with an outward slope from the temple. Deep-rooted plants and rank vegetation on the temple were taken out and the gaps and crevices filled in with toned mortar. The lime-concrete of the roof-terrace was also renewed. A drain was provided along the northern and eastern sides of the fence.

42. GROUP OF MONUMENTS, GAUR, DISTRICT MALDA.—The collapsed portion of the brickwork on the eastern face of Bais-Gazi wall was rebuilt in lime-mortar and exposed portions of wall-tops were" made watertight. The disintegrated and porous concrete over the extant dome, third from the north, of the Baraduari-Masjid was dismantled and fresh beaten lime-concrete laid. The northernmost gap in the brickwork of the arched roof of the western wing of the gateway called Dakhil-Darwaza was filled in by new brick work and finished with lime-concrete terracing. The damaged cornice of the southern face of the Lotan-Masjid was restored by the way of reproducing of the ornamental brick work. The top of the cornice was rendered watertight by laying fresh lime-concrete.

43. ADINA MOSQUE, PANDUA, DISTRICT MALDA.—The damaged floor near the *badshahi-takht* was dismantled and re-laid with fresh beaten lime-concrete.

44. DUTCH CEMETERY, KALIKAPUR, DISTRICT MURSHIDABAD.—The plaster of the compound-wall was renewed and the plastered surface suitably coloured and white washed as was found necessary.

45. MOSQUE OF MURSHID QULI KHAN, SABJIKATRA, DISTRICT MURSHIDABAD.—The collapsed brickwork of the outer walls of the *katras* on the southern, eastern and a part of the western side of the mosque was rebuilt in concreted mortar. The damaged brickwork of the bases of the south-western and north-western minarets was restored and the ground between the *katras* and the rear of the prayer-chamber levelled and dressed up. The removal of the debris from the forecourt of the mosque revealed the original brick-on-edge apron.

46. JAHAN-KOSHA GUN, TOPKHANA, DISTRICT MURSHIDABAD.—The Jahan-kosha gun, which had got embedded into a huge tree in the course of the latter's growth, was rescued and placed on a new platform enclosed by a low boundary-wall.

FRONTIER CIRCLE

Jammu and Kashmir

47. AVANTISVAMI TEMPLE, AVANTIPUR, DISTRICT ANANTNAG.—The monument was tidied up by the clearing of the debris from the compound and the proper stacking of the fallen members of the structures. The growth of moss and lichen on the stone-surfaces that was hiding the carvings was removed by the application of ammonia solution.

48. MUGHAL ARCADE, VERINAG, DISTRICT ANANTNAG.—Repairs were first under taken in July 1960 and are still in progress. The brickwork of the facade of the gateway and that of the fa9ade of the arcade overlooking the spring which had absolutely disintegrated were renewed with old-sized bricks (pl. CVI). The arches flanking the main entrance which had been disfigured during past repairs were restored to their correct form.

49. TOMB OF ZAINU'L-'ABIDIN'S MOTHER, SRINAGAR.—Repairs to this monument were continued (1961-62, p. 121). The damaged arches and squinches which carry the drum of the main dome were strengthened by renewing the brickwork. The decayed portions of the brickwork on the facade were renewed wherever necessary. Repairs to the main dome and the other subsidiary domes are now in progress.

50. GROUP OF TEMPLES, KIRAMCHI, DISTRICT UDHAMPUR.—The badly-dilapidated temples at Kiramchi were taken up for extensive repairs. The work was kept in progress (pl. CV).

MID-EASTERN CIRCLE

Bihar

51. EXCAVATED REMAINS, VAISALI, DISTRICT MUZAFFARPUR.—Accumulated debris was cleared from the excavated trenches. Damaged portions of the tiled roof over the newly-excavated *stupa* were brought down, *balli-posts* changed and new roofing was provided.

52. EXCAVATED REMAINS, NALANDA, DISTRICT PATNA.—The construction of drains to clear the rain-water from the compounds of Monasteries 8 to 11 and Temple 12 was completed. The pathway from the main entrance gate towards the site-stores and Temple-site 2 was laid with lime-concrete.

53. MIR ASHRAF'S MOSQUE, PATNA.—The ironwork was painted and the loose barbed wires of the fencing tightened, in addition to removal and uprooting of vegetation etc. from the compound and body of the mosque.

54. GROUP OF MONUMENTS, SASARAM, DISTRICT SHAHABAD.—The dead lime-concrete over the floor of the tomb of Sher Shah was removed and a layer of fresh lime - concrete laid matching with the adjacent area. The open joints in the flagstone flooring near the entrance were recess-pointed with liquid cement-mortar and pointed. The decayed lime-concrete over the floor of Hasan Sur Shah's tomb was removed and a layer of fresh lime-concrete mixed with cement laid. Loose wires of the fencing were tightened.

Uttar Pradesh

55. TOMB OF DAULAT, MEHNAGAR, DISTRICT AZAMGARH.—The damaged and de cayed portion of the floor was repaired matching with the surrounding area. The broken ends of plaster on the walls were edged off properly.

56. GROUP OF MONUMENTS, KUSINAGARA, DISTRICT DEORIA.—Six wide cracks on the surface of the Nirvana Stupa were repaired with cement-mortar and glass tell-tales fixed across them to watch further movement. The damaged terraced flooring was made good with lime-concrete. The door and windows of the Matha-Kuar shrine were fitted with expanded metal fixed on wooden frames and painted. The pathways were provided with lime-concrete. Vegetation growing on the body of Ramabhar Stupa were uprooted. £ Loose fencing wires were tightened and the fencing-posts painted.

57. EXCAVATED REMAINS, SARNATH, DISTRICT VARANASI.—Approach-roads were maintained properly by spreading and consolidating *morum.* A wooden rustic bridge was provided connecting the deer-park and the approach-road leading to the *pradakshina-patha* of the Dhamekh Stupa.

NORTHERN CIRCLE

Madhya Pradesh

58. GROUP OF tEMPLES, KHAJURAHO, DISTRICT CHHATARPUR.—The roof and the side-walls of the Duladeo temple were made watertight. The plinth of the Lakshmana temple, so long covered by the abutting plinth of the Matangesvara temple, was exposed by the removal of the masonry to reveal the sculptured friezes.

59. PARVATI TEMPLE, NACHNA, DISTRICT PANNA.—In continuation of last year's work (1961-62, p. 122), the stone floor around the shrine was completed.

Rajasthan

60. PALACES, DIG, DISTRICT BHARATPUR.—The retaining-wall on the eastern side of the tank, adjoining the Sawan pavilion, which had been damaged due to heavy rains, was repaired.

Uttar Pradesh

61. FORT, AGRA.—The work of replacing the decayed lime concrete floor at Musamman-Burj by marble slabs was taken up in order to bring it in conformity with the original set-up.

62. TAJ-MAHAL, AGRA.—The loose black-marble horizontal bands in the north west minar of the Taj were re-set. In order to ensure proper drainage, the sunken pave ment in front of the Mihman-Khana was raised to its original level. The foundations of the north-east corner *dalan,* a portion of which had settled, were strengthened with the introduction of cement-concrete. New *chhajja-stones* and a parapet-wall were provided at places on the *dalans* flanking the Fatehabad gate. The arches and walls of the *dalan* were also underpinned.

63. AKBAR'S TOMB, SIKANDRA, AGRA.—The broken arches on the western and northern sides of the mausoleum were repaired, exposed portions of walls plastered and the wall-surfaces colourwashed.

64. GROUP OP MONUMENTS, FATEHPUR-SIKRI, DISTRICT AGRA.—The old and decayed lime-concrete on the platform flanking Jodh Bai's palace was replaced by a layer of fresh concrete. The dislodged masonry of the walls of Rang-Mahal was re-set. The portions of the side-walls of the Baland-Darwaza which had been bulging due to rusting of iron cramps were repaired. Broken *chhajjas* at different monuments were also replaced.

65. KHUSRO-BAOH, ALLAHABAD.—The rotten wooden beams on the roof of the northern gate were replaced by new ones. The decayed plaster on the walls of the tombs were repaired.

66. GOPESVARA TEMPLE, DISTRICT CHAMOLI.—Extensive repairs to the temple, damaged by earthquake shocks in the past, were undertaken by way of jungle-clearance, re-setting of the loose and bulged stones, particularly of the *sikhara,* underpinning the stone masonry on the interior of the *sikhara,* grouting and pointing of the cracks and loose joints, etc

67. RESIDENCY, LUCKNOW.—The compound-wall around the Residency-buildings was repaired and raised at places.

68. SA`ADAT `ALI KHAN'S TOMB, LUCKNOW.—Fresh lime-concrete was laid on the roof of the fourth storey after the removal of the decayed layer, in order to make it water tight

NORTH-WESTERN CIRCLE

Delhi

69. 'ADILABAD n»T, DELHI.—The open joints in the masonry of the water-gate were pointed. Debris was cleared from the area around the gate.

70. HAUZ-KHAS, DELHI.—The open joints in the rubble-masonry of the cells of Firuz Shah's tomb were grouted and pointed. The old and decayed plaster on the walls of cells attached to the entrance-gate was removed and fresh plaster applied after grouting the cavities. The enclosure-wall on either side of the main entrance was raised up to about 3 m. in rubble-masonry.

71. JAMI'-MASJID, DELHI.—In continuation of the work undertaken last year (1961-62, p. 125) the decayed red sandstone slabs of the squinches of the main prayer-chamber were replaced and fixed in their original position by copper clamps and dowels. The core behind the new slabs was filled up with cement mortar. The work of replacement of decayed white marble on the southern gateway was taken up. The work is in progress.

72. GROUP OF MONUMENTS, QUTB, DELHI.—The open joints in the masonry-wall and ceiling of the pillard corridor of the Quwwatu'l-Islam mosque were grouted and pointed and all hollows and cavities filled in with lime-cement mortar. The broken stone slabs in the roof of the prayer-chamber were replaced. The northern enclosure-wall of the Qutb area was exposed by the removal of debris.

73. RED FORT, DELHI.—In continuation of the work undertaken last year (1961-62, p. 125), the decayed red sandstone floor-slabs of the Rang-Mahal were taken out and new ones re-set in their position. A considerable portion of the renewal of the *pietra-dura* work in the Diwan-i-Khas was completed and the work of replacement of the worn* out *dasa-stones* of the Diwan-i-'Am is in progress.

74. TUGHLAQABAD FORT, DELHI.—The overhanging portions of the Khandaki-Burj were underpinned.

75. DELHI GATE, NEW DELHI.—An iron railing was provided around the gate.

76. HUMAYUN'S TOMB, NEW DELHI.—The carved ornamental dasa-stones on the eastern side of the platform were replaced. An iron gate was provided in the wild-park area, where a rubble-masonry compound-wall was erected to demarcate the protected area.

77. KOTLA FIRUZ SHAH, NEW DELHI.—The fallen portions of the rubble-masonry wall on the eastern side were underpinned.

78. SAFDARJANG GATE-HOUSE, NEW DELHI.—Wooden doors were provided in the northern, southern and western *baradaris* in keeping with the pattern prevailing in that period.

79. SIKANDAR Lopi's TOMB, NEW DELHI.—A portion of the collapsed wall was repaired and wide joints in the stone flooring were pointed.

Panjab

80. FORT, BHATTNDA.—Portions of the sagged brick flooring on the fortification* wall were opened and re-set on a firm bedding of rammed earth.

81. BARS! GATE, HANSI, DISTRICT HISSAR.—The open joints in the brickwork of the plinth of the eastern bastion was pointed.

82. MOSQUE AND LAT, HISSAR.—In order to prevent scouring of earth dry-stone pitching was provided in the trench and the joints were pointed. The exposed top of the rubble-masonry of the southern cell was made watertight. The work is in progress.

83. FORT, KOTLA, DISTRICT KANGRA.—The flight of steps from Bhadkhad to the Ganesa temple were repaired at different places. The work is in progress.

84. RUINED TEMPLE, PORT, NURPUR, DISTRICT KANGRA.—The damaged rubble-wall near the temple was dismantled and rebuilt.

85. GHARAUNDA-SARAI GATEWAYS, KARNAL.—The decayed roof-concrete of the southern gate was removed and the exposed surface re-laid with lime-cement concrete.

86. KABULI-BAGH MOSQUE, PANIPAT, DISTRICT KARNAL.—The damaged portions of the boundary-wall and the *burji* on the south-west corner were rebuilt.

Rajasthan

87. ANASAGAR BARADARI, AIMER.—Grouting and pointing of the open joints in the floors and walls were started. The work is in progress.

88. SHAH-JAHANI MOSQUE, AJMER.—The broken and decayed marble slabs from the rear wall of the prayer-chamber were taken out by careful chipping and new marble slabs fixed instead, after the removal of all rusted iron dowels and pins. Copper pins were employed in fixing the new slabs in position.

89. HARSHAT-MATA TEMPLE, ABANERI, DISTRICT JAIPUR.—The moulded ashlar stones were collected and re-set in their original positions on the eastern side of the temple.

90. BADAL-MAHAL, FORT, RANTHAMBHOR, DISTRICT SAWAI-MADHOPUR.—The decayed lime-concrete from the roof and the floor was raked out and fresh concrete laid.

Uttar Pradesh

91. TOMB OF SHAH Pm, MEERUT.—The decayed concrete flooring around the grave was dismantled and the floor re-laid with new lime-cement concrete. All rank vegetation was removed from the dome and other parts of the monument.

92. SAYYID CHHAJJU KHAN'S TOMB, MAJHERA, DISTRICT MUZAFFARNAGAR.—The buried compound-wall was exposed by the removal of sand from the precincts of the monuments.

93. SAYYID UMAR NUR KHAN'S TOMB, MAJHERA, DISTRICT MUZAFFARNAGAR.—The open joints in the extrados of the dome were grouted and pointed to make the surface watertight.

94. SAYYID SAIF KHAN'S TOMB, MAJHERA, DISTRICT MUZAFFARNAGAR.—Buried enclosure-walls were exposed and the cracks in the masonry walls *of the chhattri* were grouted. The bulged and dislodged stones of the rear wall of the mosque were re-set with copper clamps and dowels. The work is in progress.

SOUTH-EASTERN CIRCLE

Andhra Pradesh

95. LOWER FORT, CHANDRAGIRI, DISTRICT CHITTOOR.—The fort-walls were cleared of rank vegetation and the broken ends were rebuilt. Overgrown vegetation was removed from the tops of the temples and the roofs were made watertight by laying a fresh laver of combination-concrete. The floors of the temples were levelled and well-consolidated with a layer of gravel.

96. FORT, GANDIKOTA, DISTRICT CUDDAPAH.—Rank vegetation and debris were teared from the eastern gateway. The open joints in the masonry of the inner arch and is abutments were pointed with combination-mortar.

97. MADHAVA-PERUMALSVAMI TEMPLE, GANDIKOTA, DISTRICT CUDDAPAH.—The stone flooring of the *kalyana-mandapa* was repaired by restoring the missing slabs and pointing the open joints.

98. FORT, SIDDHAVATTAM, DISTRICT CUDDAPAH.—Thorny bushes and rank vegetation were cleared from inside the fort and a proper approach to the monument was laid. The damaged portion of the parapet-wall was restored. The embankment was strengthened by providing a revetment duly pointed in good mortar.

99. BUDDHIST REMAINS, AMARAVATI, DISTRICT GUNTUR.—Barbed-wire fencing fixed to granite posts was provided to enclose the site.

100. FORT, GOLKONDA, DISTRICT HYDERABAD.—Besides the works of general maintenance by the way of clearance of vegetation etc., the broken and fallen walls of the fort were repaired and the exposed wall-tops made watertight. The gaping and open joints of the masonry were also recess-pointed with coloured combination-mortar.

101. CHAR-MINAR, HYDERABAD.—The clock at the Char-Minar, which had been out of order for a very long time, was repaired and restored to a working-condition. The sides of the clock were protected with iron-framed shutters to prevent mischief by the visiting public.

102. BUDDHIST REMAINS, GUDIVADA, DISTRICT KRISHNA.—The monument being situated in a crowded habitational area of the town, a brick wall was raised around it for its protection against misuse.

103. AKKANNA-MADANNA CAVES, VIJAYAWADA, DISTRICT KRISHNA.—To check unauthorized entry into the premises, an iron gate was fixed at the compound-wall and glass-pieces were fixed to the wall-top.

104. 'ABDUL WAHAB KHAN'S TOMB, KURNOOL.—The fallen portion of the compound-wall was restored to its original height. The ceiling of the main dome was cleared of accretions and holes found in the arched ceiling of the corridor around the main tomb were plugged with cut stones to match.

105. GROUP OF TEMPLES, ALAMPUR, DISTRICT MAHBUBNAGAR.—The loose and disturbed flooring slabs of the Nava-Brahma temple were re-set and pointed with lime-cement mortar. Wooden frames fitted with expanded metal were fixed to the openings to check the entry of bats. The debris lying around the Padma-Brahma temple was removed to expose the stone flooring buried underneath and the original entrance thrown open.

106. THOUSAND-PILLARED TEMPLE, HANAMKONDA, DISTRICT WARANGAL.—A huge quantity of debris was removed from the leaking roof of the temple with a triple shrine with a common *mukha-mandapa.* The leakage in the roof was stopped by laying fresh lime-concrete after taking out the layer of decayed one.

107. FORT, WARANGAL.—The mound of ruins of the Svayambhu temple, located within the area bounded by torana-gateways, was cleared and the structure exposed to view. Examination of the foundation-trenches revealed that the structure was founded on sand-bed with thick masonry. Further work is in progress.

108. BUDDHIST REMAINS, GUNTAPALLE, DISTRICT WEST GODAVARI.—The washed-out stretch of pathway at Dharmalingesvarasvami temple to the first group of caves was

restored by rough stones packed dry. The area surrounding the remains was trimmed off and the entire area made neat and tidy.

Madhya Pradesh

109. RAMA TEMPLE, SIRPUR, DISTRICT RAIPUR.—The missing flooring of the *mandapa* and *garbhagriha* was restored with red sandstones and pointed with cement-mortar of the same colour. The area around the temple was levelled and covered with *morum* to present a neat and tidy appearance.

Maharashtra

110. FORT, BALLARPUR, DISTRICT CHANDA.—A groyne-wall of brushwood was provided on the west side of the Rani-Mahal to prevent the scouring action of the Wardha river. The original flooring, basements and foundation of pillars of the monument were exposed by clearing the accumulated debris.

111. FORT-WALL, BHANDAK, DISTRICT CHANDA.—The fallen portions of both the internal and external faces of the fort-wall were rebuilt and the top rendered watertight.

112. ACHALESVARA TEMPLE, CHANDA.—The encrustations of several layers of white wash on the walls of the temple were scraped off and cleaned scientifically to expose the images and carvings.

113. GOND RAJA'S TOMBS, CHANDA.—The area around the tombs was made neat and tidy and all the pathways were gravelled. The work of making the terrace of Ballarshah's tomb watertight was started.

114. MAHADEVA TEMPLE, NERI, DISTRICT CHANDA.—Extensive clearance of vege tation over and around the structure was done. The modern accretions over the *sikhara* were dismantled, the top made watertight and the crevices filled with random-rubble.

115. MAHADEVA TEMPLE, THANEGAON, DISTRICT CHANDA.—The *sikhara* and the walls of the main shrine were recess-pointed with combination-mortar after the grouting of the cracks and wide joints to make the temple watertight.

SOUTHERN CIRCLE

Kerala

116. FORT ST. ANGELO, CANNANORE.—Besides replacing the damaged wooden planks of the bridge leading to the fort, the breach in the laterite masonry of the fort-wall was mended and decayed plaster of the barracks was replaced with new plaster.

117. ST. FRANCIS CHURCH, COCHIN, DISTRICT ERNAKULAM.—The inner walls of the church were distempered. The work of laying a concrete-apron around the monument to prevent seepage of water into the foundation was taken up.

118. ROCK-CUT CAVE, KATTAKAMPALA, DISTRICT TRICHUR.—A stone dwarf-wall in laterite was built in front of the cave to prevent ingress of surface-water.

119. FORT, ANJENGO, DISTRICT TRIVANDRUM.—The breaches in the bastions were repaired and the top of the fort-wall was made watertight.

Madras

120. KAILASANATHA TEMPLE, KANCHIPURAM, DISTRICT CHINGLEPUT.—The exposed surface of the court around the main temple was paved with cut stones.

121. GROUP OF MONUMENTS, MAHABALIPURAM, DISTRICT CHINGLEPUT.—After dressing the area of the five *rathas* to a proper slope, to drain out rain-water, dry-rubble packing and steps were provided at the entrance to the enclosure. The approaches were provided with edging-stones.

122. VADAMALISVARA TEMPLE, ORAGADAM, DISTRICT CHINGLEPUT.—A retaining-wall of cut stones was built to prevent erosion of the soil.

123. SIVA TEMPLE, AVINASHI, DISTRICT COIMBATORE.—The circumambulatory passage inside the temple was concreted.

124. MURUGANATHA TEMPLE, TIRUMURGGANPUNDI, DISTRICT COIMBATORE.—The terrace of the temple was made watertight by laying a layer of fresh concrete after removing the decayed one.

125. FORT ST. GEORGE, MADRAS.—The decayed wooden beams and ceiling-planks of the first floor of the old Officers' Mess Block, now Fort St. George Museum, were re placed. The rotten heavy wooden beams over the front pillars on the first floor of Clive's House were replaced by new ones matching with the original on the ground-floor.

126. FORT ON THE ROCK, DINDIGUL, DISTRICT MADURAL—Besides clearance of jungle wooden shutters fitted with expanded metal were fixed to the entrance to the under ground passage.

127. PANCHA-PANDAVA BEDS, TIRUPARANKUNDRAM, DISTRICT MADURAI.—For easy climbing of the steep hill the rock-cut steps were widened and reconditioned by chi selling.

128. ROCK-CUT CAVE, TIRUPARANKUDRAM, DISTRICT MADURAI.—Dry-rubble packing was provided to the drain in front of the monument to arrest erosion.

129. KARUPPANNASVAMI ROCK AND JAINA SCULPTURES, UTTAMAPALYAM, DISTRICT MADURAI.—A stone shed was provided to protect the Jaina sculptures and the inscriptions on the face of the rock, in place of a damaged reinforced concrete roof erected in the past.

130. JALAKANTESVARA TEMPLE, VELLORE, DISTRICT NORTH ARCOT.—The massive wooden shutters of the entrance-gateway were repaired and the missing bolts with lotus-design on them were replaced.

131. GROUP OF MONUMENTS, GINGEE, DISTRICT SOUTH ARCOT.—The roof of the Horse's Stable was made watertight.

132. AIRAVATESVARA TEMPLE, DARASURAM, DISTRICT THANJAVUR.—The decayed concrete on the terrace of the *mandapa* was removed and a layer of fresh concrete laid. Other items of repairs carried out included the provision of skylights, stacking of loose sculptures, etc. The work of making the roof watertight and draining out water was kept in progress.

133. SIVA-GANGA LITTLE FORT, THANJAVUR.—The fallen portion of the rampart-wall to the north of the main entrance to the temple was repaired following the clues of original construction. The work was kept in progress.

134. UTTAMADANESVARASVAMI TEMPLE, KAILATHANIYAM, DISTRICT TIRUCHCHIRAPPALLI.—The breaches in the compound-wall of the temple were restored and the entrance-gate repaired.

135. GROUP OF MONUMENTS, KUNNANDARKOIL, DISTRICT TIRUCHCHIRAPPALLI.—The main items to repairs of this group of monuments were re-setting of disturbed stone-flooring and providing bat-proof ventilators.

136. GROUP OF MONUMENTS, NARTTAMALAI, DISTRICT TIRUCHCHIRAPPALLI.—The parapet of the compound-wall of the temple was made watertight. The disturbed floor ing of the *garbhagriha* was repaired with stone slabs.

137. MONUMENTS NEAR PUDUKKOTTAI, DISTRICT TIRUCHCHIRAPPALLI.—The area around the monuments was dressed with proper slope to drain off rain-water.

138. FORT, RANJANGUDI, DISTRICT TIRUCHCHIRAPPALLI.—The fallen portion of the defence-wall on the western side was repaired.

139. LOWER ROCK-CUT CAVE, TIRUCHCHIRAPPALLI.—TO prevent entry of bats adjustable curtains of netting were provided to the openings of the verandah.

140. GROUP OF MONUMENTS, TIRUMAYAM, DISTRICT TIRUCHCHIRAPPALLI.—Bat-proof shutters were provided to the openings of the monuments. Cut-stone benches were also provided in the compound for the visitors.

Mysore

141. FORT, BANGALORE.—The decayed plaster of the rampart-walls was scraped off and the surface was covered with a coat of fresh plaster.

142. TIPU SULTAN'S PALACE, BANGALORE.—The front half of the terrace of the palace was made watertight by re-laying concrete and flat tiles after the replacement of the decayed beams and planks with new ones (pi. CVII). The work was kept in progress.

143. GROUP OF MONUMENTS, KAMALAPURAM, DISTRICT BELLARY.—Besides extensive jungle-clearance, the inner side of the domed gateway was repaired by the way of re building damaged portions of the flanking walls in dry masonry. The approach-roads were reconditioned by spread of gravel.

144. AMRITESVARA TEMPLE, AMRITAPURA, DISTRICT CHIKMAGALUR.—The roof of the temple was made watertight by grouting the cracks and laying of concreted mortar. The wide joints in the walls of the *vimana* were grouted and pointed.

145. VIRA-NARAYANA-PERUMAL TEMPLE, BELAWADI, DISTRICT CHIKMAGALUR.—Besides levelling and dressing the area around the temple, the cracks in the roof of the *vimana* were grouted and pointed.

146. GROUP OF MONUMENTS, SRAVANABELAGOLA, DISTRICT HASSAN.—A parapet-|wall wan built over the *mandapa* at the entrance in brickwork and steps were provided for

ascending the steep rock leading to the *mandapa.* The later walls in the Chamundaraya-Basti were partly demolished. The flooring of the platform for the colossal Gomates-vara statue was re-set with new stone slabs.

147. LAKSHMI-DEVI TEMPLE, DODDAGADDAYALLI, DISTRICT MANDYA.—The leaky roof of the *vimana* was grouted and made watertight

148. SAUMYA-KESAVA TEMPLE, NAGAMANGALA, DISTRICT MANDYA.—The flooring of the first floor of the *gopuram* was repaired by plastering. Teakwood doors were pro vided at the *grabhagriha.*

149. SRIKANTESVARA TEMPLE, NANJANGUD, DISTRICT MYSORE.—The terrace of the temple was made watertight by laying a layer of fresh concrete after the removal of the decayed one.

150. RAMESVARA TEMPLE, NARASAMANGALA, DISTRICT MYSORE. —Missing stone slabs of the flooring were provided in the shrine of the *sapta-matrikas.* The basements of the *nandi* and the *linga* were strengthened with rubble-stone masonry.

151. GROUP OF MONUMENTS, TALAKAD, DISTRICT MYSORE.—The top and walls of the *vimana* of the Kirtti-Narayana temple were grouted to arrest leakage.

152. TEMPLE, BELGAVI, DISTRICT SHIMOGA.—The terrace of the temple was made watertight.

153. BASTI, HUMCHA, DISTRICT SHIMOGA.—The leaking terrace was made water tight.

154. KAITAVESVARA TEMPLE, KUBATHUR, DISTRICT SHIMOGA.—The damaged terrce was repaired and rendered watertight.

SOUTH-WESTERN CIRCLE

Maharashtra

155. ROCK-CUT CAVES, AJANTA, DISTRICT AURANGABAD.—In pursuance of the policy already laid down regarding the preservation of cave-temples and according to the programme set forth for this group of caves, systematic repairs were carried out by strengthening the decayed architectural members providing rock-cut drains, drip-courses, etc. Having started the repairs from the tail-end the work was extended to the central group beyond Cave 16.

156. BIBI-KA-MAQBARA, AURANGABAD.—After the completion of the work of plastering the exposed surface of the northeast *minar* which had been started earlier, the north-western *minar* was taken up for similar treatment. Nearly three-fourths of the work were completed. The work was kept in progress.

157. FORT, DAULATABAD, DISTRICT AURANGABAD.—The cells in the walls between the first and second gates were repaired and artillery available in the fort arranged for dis play A low stone platform was constructed along the fortification-wall, beyond the second gate, to arrange on it loose sculptures and architectural pieces. As a result of mass clearance of debris near Rashidbagh, around Hati-Hauz, Jaina temple and the Chand-Minar, several cells, hitherto buried, were brought to light.

158. ROCK-CUT CAVES, ELLORA, DISTRICT AURANGABAD.—Repairs to Cave 5 also followed the pattern mentioned under item 155. Works taken up earlier (1961-62, p. 135) in Caves 11 and 12 and subsequently in Cave 15 were brought to a completion. The projecting rock-floors at the levels of first and second floors of the caves which had been damaged in the past due to fall of rock and boulders from the top were repaired along with the filling up of cracks and crevices to bring about improvement to the conditions of the facade. The surface-drains on the top were also reconditioned by chiselling.

159. ELEPHANTA CAVES, GHARAPURI, DISTRICT KOLABA.—As at Ajanta and Ellora, the damaged pillars in Cave 1, repaired in ashlar-masonry in the past, were reconditioned in cement-concrete with adequate reinforcement where necessary. The work is in progress.

Mysore

160. CHAUKHANDI OF HAZRAT KHALILU'LLAH SHAH, ASHTUR, DISTRICT BIDAR.—The collapsed tomb on the east of the Chaukhandi was cleared of debris and the standing portion of the walls and the graves were exposed. To preserve the remaining portions the overhanging portions were given support by underpinning; the cracks developed due to the jerk of the fall were filled in; the wide joints in the masonry were pointed; and the exposed wall-tops 1 made watertight. The broken ends of the , plaster on the intrados of the dome were filleted.

161. MADRASA MAHMUD GAWAN, BIDAR.—The damaged flooring of the ground-cloisters was renewed with cement-concrete along with plaster on it. The fallen portion of the compound-wall was reconstructed and the wall repaired at places.

162. TOMB OF 'ALI BARID, BIDAR.—The overgrowth of vegetation was cleared and the decayed plaster removed from the dome for making the surface watertight by plastering with fresh lime-cement mortar.

163. HUCCHAPPA-MATH, AIHOLE, DISTRICT BIJAPUR.—The fallen walls of the monument were rebuilt. The area around it was levelled up.

164. NAGANATHA TEMPLE, BADAMI, DISTRICT BIJAPUR.—The bulging back wall of the *pradakshina-patha* was dismantled and rebuilt. The missing ceiling-slabs were replaced to stop entry of rain-water inside. Likewise, the missing pavement-slabs were also restored. The *sikhara* of the temple was made watertight by the filling in of the open joints.

165. GROUP OF MONUMENTS, BIJAPUR.—The fallen portion of the compound-wall of Batu'lla Khan's mosque was repaired and the open joints of the existing wall were pointed. The damaged floor of the tomb of Haji Hasan was plastered. For the proper maintenance of the monument a compound-wall was constructed around it. A wooden shutter fitted with expanded metal was fixed to the door of the tomb of Aurangzeb's -^wife. Its ancient enclosure-wall was strengthened by filling up the breaches and pointing the open joints. ^The fallen portion of the citadel-wall near Gagan-Mahal was repaired. The missing edging-stones of the tank in front of Asar-Mahal were restored.

166. MAMALESVARA TEMPLE, BALAMBID, DISTRICT DHARWAR.—A cement-concrete apron was provided around the temple to stop percolation of water into the foundation.

167. MUKTESVARA TEMPLE, CHAUDHANPUR, DISTRICT DHARWAR.—The fallen compound-wall built in mud was rebuilt in lime-cement mortar.

168. SIDDHESVARA TEMPLE, HAVERI, DISTRICT DHARWAR.—The old and decayed portion of the stone pavement in the compound was renewed and the open joints of the whole pavement filled in.

169. GROUP OF MONUMENTS, HUNGAL, DISTRICT DHARWAR.—An apron of cement-concrete was provided around Billesvara temple to stop entry of surface-water into its foundations.

170. BASAVANNADEVA TEMPLE, TAMBUR, DISTRICT DHARWAR.—A compound-wall was erected around the monument for its proper upkeepment.

WESTERN CIRCLE

Gujarat

171. RAUZA OF HAZRAT SHAH 'ALAM, AHMADABAD.—Dislodged *kangura* and *chhajja-stones* on the three sides of the Rauza of Saif Khan were re-set. A part of the decayed roof was made watertight after grouting the cracks." The decayed flooring of the main mosque was renewed and finished off with *sagol* top as had existed before. A few damaged carved stones over the *mihrab* and *dasa* of the mosque were replaced.

172. EXCAVATED REMAINS, LOTHAL, DISTRICT AHMADABAD.—Clearance of debris from within the dockyard, started last year (1961-62, p. 138), was completed. The vertical cuttings on the north, east and south were provided with a slope of 45° and that on the western side with a mild slope to avoid a minimum cutting of mud-brick platform towards the habitation-site. The three top courses of the walls of the dockyard were taken out and re-set in good mortar to make the top watertight. The damaged portion of the walls of the same structure on the north-west corner was traced below the ground-level and underpinned with specially-manufactured burnt bricks. The portions of the walls which had been below the surface were raised about half-a-metre above the ground-level. The 'kiln', which had been kept covered for protection against the rains, was re-exposed and the individual blocks were encased with specially-manufactured bricks of cement-concrete mixed with clay. Spaces between the different blocks were also covered with special bricks over a concrete-bed. Care was taken to see that the original dimensions of the different blocks with escape-passages were retained.

173. MANSAR TANK, VIRAMGAM, DISTRICT AHMADABAD.—The bulges in the ashlar protection-wall with brick-backing on the northern side of the tank were rectified by the use new veneer-stones at places.

174. GROUP OF TEMPLES, DWARKA, DISTRICT JAMNAGAR.—A lightning-conductor was fixed on the main temple of Ranachhod-Rai temple.

175. BABA-PYARA CAVES, JUNAGADH.—The pockets in the rock on the top of the caves were filled in with cement-concrete toned to match with the existing surface. Channels were cut in the rock for easy drainage of surface-water from away the cave-fronts.

176. TEMPLE, ZINAWALI-GOP, DISTRICT, JAMNAGAR.—A barbed-wire fencing, with a turnstile gate, was provided around the temple.

177. GROUP OF MONUMENTS, PAVAGARH, DISTRICT PANCHMAHALS.—The accumulations of debris over the structures on the ground, first and second floors of Patai-Rawal's palaces were cleared and its big halls, rooms and cells exposed. The tops of the walls of the

structures exposed were made watertight. The first gate of the palace together with a part of the flanking-walls was repaired after the uprooting of trees. The fort-walls flanking the fifth gate were raised above the ground-level. The two platforms near the gate, exposed during the course of clearance, were also repaired. Top of a part of the third fortification-wall was made watertight after clearance of jungle. The open joints of the portion of the walls were recess-pointed. Heaps of structural stones lying inside the main hall and all round the mint and underground cells were removed (pl.CVIII). In the course of clearance twentyfive cells were exposed. A few fallen lintels and pillars were fixed at their original places. Walls of the three sides of the main hall were partially restored for supporting the free-standing pilasters. Debris was cleared from all sides of the main hall exposing traces of a covered corridor on the four sides of the main hall. The main approach to the paint was located and so demarcated. The top of a part of the citadel-wall near Shahr-ki-Masjid was made watertight.

Rajasthan

178. "GROUP OF TEMPLES, BADOLI, DISTRICT CHITORGARH.—In order to stop heavy leakage, the brick *sikhara* of the Ganesa temple was taken down carefully and restored as in the original in lime-cement mortar, after a bed of lime-cement-concrete had been provided on the flat roof of the temple. The sunken pavement round the temple of Trimurti (Mahadeva) was taken out and re-set on a concrete-bed.

179. GROUP OF MONUMENTS, FORT, CHITORGARH.—In continuation of last year's work (1961-62, p. 139), accumulated debris on the left side of Alah Kabra's house was cleared and structures which formed a part of the palace-complex were exposed. Damaged portion of the arches and ceiling of the main entrance building were repaired. The main gate was provided with new stone pillars, capitals and lintels in place of missing ones. Modern accretions and encumbrances in the courtyard of the Darbar hall were pulled down and the debris was cleared. The accumulation of rubble lying in front of the main gate of the Ratnesvara temple was removed. Debris was also cleared from the annexed inner court and interesting structures with an underground cell were exposed. The extant portion of the corner-tower which was in imminent danger of collapse was strengthened. Exposed portions of the compound-walls of the courtyard were made watertight. The palace called Moti-Bazar, behind the Topkhana, was cleared of debris and jungle, thereby exposing a row of shops with a verandah in front. A part of Badi-Pole gate-complex was also exposed. The height of the compound-wall of Rana Sanga's Deodi was made watertight. Decayed lime-concrete from the roof-terrace was taken down and fresh concrete laid. The undermined portions of the walls of Genda's house were underpinned and the overhanging roof tops given supports. The decayed lime-concrete of the terraced roof of the complex was renewed. Decayed and sunken floor of the courtyard and a part of *sabha-mandapa* of the Galtesvara temple were taken out and provided with new flagstone flooring on a bed of lime-concrete. The compound-wall was partially raised. The broken lintel of the porch of the Mahadeva temple near Gomukha was replaced after bringing the tilted pillar below it in plumb. The roof of the porch was made watertight. Further debris from Rampura house was cleared and the exposed tops of walls were made watertight. The main gate was also repaired. The debris of the fallen compound-wall of Khatan-Rani's House, overlooking the tank, was cleared and the wall was restored high enough for the safety of the structure. Clearance of debris from both the sides of the northern Sati gate and the back side of

Samidhesvara temple was completed. Remains of a number of shrines and fragments of sculptures were exposed. Jungle on all sides of the Ghee tank were removed and big trees growing over the structure were removed (pl. CIX). Debris inside the tank was removed and a number of interesting original features were exposed. A portion of the fallen wall near the entrance to the tank was restored.

180. GROUP OF TEMPLES, MENAL, DISTRICT CHITORGARH.—A portion of the fallen compound-wall on the northern and western sides were repaired after the clearance of fallen stones. The top of the main gate-building leading to the courtyard of the temple was made watertight and the fallen balcony on its western side was restored. A part of the sunken floor near the decorated wall was re-laid on a new concrete-bed. Temples 1 and 7 of the row of temples in front of the main temple were thoroughly repaired.

181. FORT, KUMBHALGARH, DISTRICT UDAIPUR.—Roots from the dislodged *sikhara* of four shrines of the Baban-Deori temple were taken out after taking down the stones carefully which were restored to the original places in lime-cement mortar. The tilted pillars and lintels of the Mama-Devi temple were brought to their original positions. The decayed concrete of the dome of Pichla-Devi temple was renewed with fresh lime-cement concrete after the removal of the roots. The fallen rubble-masonry from the edge of the flat roof of the *sabha-mandapa* was restored.

MONUMENTS MAINTAINED BY STATES

ANDHRA PRADESH

The following monuments were attended to :

1. BHOGAMDANI-BHAVI, RAJAMPET, DISTRICT CUDDAPAH.
2. NARASIMHA TEMPLE, VINUKONDA, DISTRICT GUNTUR.
3. HAKIM'S TOMB, SARAI AND MOSQUE, GOLKONDA, DISTRICT HYDERABAD.
4. CHINQULIJ KHAN'S TOMB AND BARADARI, HIMAYATNAGAR, HYDERABAD.
5. MONS. RAYMOND'S OBELISK, HYDERABAD.
6. SOMESVARASVAMI AND VIRA-NARAYANASVAMI TEMPLES, BHONGIR, DISTRICT NALGONDA.

GUJARAT

7. KHAMBALIDA CAVES, RAJKOT.—The accumulated debris was cleared from inside and around the caves and jungle removed from the precincts of the monument.

8. MUNI-BAWA TEMPLE, THANA, RAJKOT.—The temple was cleared of the debris of fallen members and masonry including the thick growth of jungle.

9. GROUP OF TEMPLES, ABHAPAR, DISTRICT SABAR-KANTHA.—Debris and jungle were cleared from the Sarnesvara and Jaina temples (pl. CX).

10. GROUP OF TEMPLES, RODA, DISTRICT SABAR-KANTHA.—Mass clearance of debris from the area around the temples revealed the basements of six other minor shrines hitherto buried.

KERALA

11. KRISHNAPURAM PALACE, KAVAMKULAM, DISTRICT ALLEPPEY.—Extensive repairs were carried out to the palace by the replacement of the decayed roof with a new one, plastering the floors and painting the woodwork with a preservative solution. A wooden railing was provided near the walls carrying paintings, to prevent visitors from touching the paintings.

12. PADMANABHAPURAM PALACE, THUKALAY, DISTRICT KANNIYAKUMARI.—Repairs to this monument were kept in progress in continuation of the last year's work (1961-62, p. 141). The insecure walls were supported of *madapally* by erecting buttress-walls. The floors were replastered after the removal of the decayed layer. The roof of the *upparika-malika* was repaired.

13. FORT, KOTTAPURAM.—Besides structural repairs carried out to the fort the whole area was brought within a fence and an entrance provided on the river-side.

MAHARASHTRA

14. UTTARESVARA TEMPLE, TER, DISTRICT OSMANABAD.—The carved wooden door of the temple was removed for chemical treatment and a new one fixed in its place. Debris was removed from around the temple and repairs carried out to prevent further deterioration.

RAJASTHAN

The following monuments received attention :

15. SIVA TEMPLE, THANWALA, DISTRICT AJMER.
16. MUCHKUND TANK, DHOLPUR, DISTRICT BHARATPUR.
17. GROUP OF TEMPLES, MANDORE, DISTRICT JODHPUR.
18. TEMPLE OF VISHNU, OSIAN, DISTRICT JODHPUR.
19. SIVA TEMPLE, RAMGARH, DISTRICT KOTAH.
20. GROUP OF MONUMENTS, SHAHABAD, DISTRICT KOTAH.
21. AMBIKAJI TEMPLE, JAGAT, DISTRICT UDAIPUR.
22. GOPINATHAJI TEMPLE, JAGAT, DISTRICT UDAIPUR.

WEST BENGAL

The following monuments received attention :

23. HENRY MARTIN'S PAGODA, SERAMPORE, DISTRICT HOOGHLY.
24. TOMB OF NAWAB SARFARAZ KHAN, MURSHIDABAD.

VII. ARCHAEOLOGICAL CHEMISTRY[1]

TREATMENT OF MONUMENTS AND PAINTINGS

ANDHRA PRADESH

1. VIRABHADRASVAMI TEMPLE, LEPAKSHI, DISTRICT ANANTAPUR.—The huge painted figure of Virabhadra in the central hall of the inner shrine of this temple was chemically treated. Before treatment the details of the image had remained completely obliterated on account of a thick coat of paint and soot. With the help of chemicals soot and oily matter were completely removed from the surface leaving only a few dark patches for comparison. As a result of the treatment, the original features of the ornamented figure along with those of its attendants were brought to light. The paintings on the outside walls of the main shrine and also those on the ceilings of the *pradakshina-patha* were cleaned, consolidated and preserved.

BIHAR

2. CHHATTRI OF RAJA MAN SINGH, BAIKATPUR, DISTRICT PATNA.—The paintings in the *chhattri* of Raja Man Singh, one of the few remaining pieces of the art of Mughal times in this part of the country, were subjected to elaborate chemical treatment. The treatment indicated that the original gleam of the colours of these paintings would be greatly revived after chemical conservation.

3. ROHTAS FORT, DISTRICT SHAHABAD.—The wall-paintings in this fort were chemi cally treated and preserved systematically. The painted area, exposed from under a coyer of limewash, showed animal-life and hunting-scenes. Line-drawings of these paintings were prepared.

DELHI

4. IRON PILLAR, QUTB, DELHI.—After the completion of the necessary preliminaries (1961-62, p. 143), the iron pillar was treated chemically to remove thick greasy accretions and stains of rust. The chemical work was documented by photographs..

5. RED FORT, DELHI.—The chemical treatment and preservation of the golden paintings on the ceiling of the Diwan-i-Khas, which were in bad condition, remained in progress (1961-62, p. 144). A photographic record was prepared of the work.

The marble screen which had been covered with hard age-old accretions such as dust, dirt and grease was satisfactorily treated and preserved.

1 Information from the Archaeological Chemist of the Survey, except as noted below, p. 103, n.

MADHYA PRADESH

6. LAKSHMANA TEMPLE, KHAJURAHO, DISTRICT CHHATARPUR.—The chemical work on the sculptures and carvings progressed (1961-62, p. 144) satisfactorily and a consider able area of the monument was freed from limewash and certain resistant stains of vegetational growth.

7. ROCK-CUT CAVES, BAGH, DISTRICT DHAR.—The paintings in Cave 2, which had been uncovered by the removal of sooty layers, appeared to be very hazy. Experiments were initiated to determine the right procedure to be adopted to bring out the existing details of the paint-layers, the results of which would be made use of in the preservation of these paintings.

8. SHAH SHUJA'S TOMB, BURHANPUR, DISTRICT EAST NIMAR.—The chemical treat ment of the damaged wall-paintings was continued (1961-62, p. 145). A major portion of the work was successfully completed; only the higher portions in the circular dome-ceiling remained to be treated. A transparent protective coat of a resin-varnish was applied on the cleaned surface. The work is in progress.

9. TAPSI-MATH, BILHARI, DISTRICT JABALPUR.—The wall-paintings inside this *math,* which had previously been taken up for chemical treatment (1961-62, p. 144), were freed of accretions and preserved after the consolidation of the flaking pigments and loose plaster.

10. RAJIVALOCHANA TEMPLE, RAJIM, DISTRICT RAIPUR.—The outer surface of this stone temple was coated with limewash, vermilion, oil etc. With the help of suit able solvents these accretions were removed and a preservative applied.

11. JOGIMARA CAVE, UDAIPUR, DISTRICT SURGUJA.—Paintings on the ceiling of the Jogimara cave, a natural cavern situated on the eastern side of the Ramgarh hills, were chemically treated and preserved.

MADRAS

12. SHORE TEMPLE, MAHABALIPURAM, DISTRICT CHINGLEPUT.—The Somaskanda panel in this temple, which had been showing extensive exfoliation because of saline action, was subjected to paper-pulp treatment. The work of extraction of salt was kept in progress.

13. BRIHADISVARA TEMPLE, THANJAVUR.—The work of chemical cleaning and preservation, so long confined to Chamber 4 of the temple, was extended to Chambers 5, 6, 7, 8 and 9. The paintings in Chambers 7 and 8 were cleared of dust and dirt. Simultaneously, attempts were made to expose the Chola paintings hidden under those of the Nayakas on the jamb in the north wall of Chamber 4. The exposed paintings were cleaned and preserved. The paintings on the west wall in Chamber 7 were cleaned and suitable solvents were used for removing the last traces of the chemicals. The work was kept in progress.

MAHARASHTRA

14. ROCK-CUT CAVES, AJANTA, DISTRICT AURANGABAD.—The work of cleaning of paintings in Cave 16 was continued (1961-62, p. 145). The paintings on the east wall of the back aisle of this cave, previously treated, had developed some chalkiness.

The old preservative coat was removed and the paintings were subjected to further cleaning; this brought to light a figure of standing Buddha in the dexter middle of panel 3. The broken edges of the painted plaster over the pillars in the central hall of Cave 17 were filleted.

15. ROCK-CUT CAVES, ELLORA, DISTRICT AURANGABAD.—In Cave 33 a few patches of paintings in the central hall, which had remained covered with oil, soot and dirt, were taken up for chemical treatment. With the help of various organic solvents, the paintings were cleaned and preserved with a suitable preservative. During the process some human figures were brought to light.

The loose paint-films and the broken edges of the painted plaster on the ceilings of southern, western and northern aisles were filleted with suitably-tinted plaster of Paris.

16. AMBARNATH TEMPLE, AMBARNATH, DISTRICT THANA.—As the temple is near the sea, the outer stone surface of the temple had greatly exfoliated owing to saline action. In order to extract salts paper-pulp was applied over different parts of the temple. At some places it was found that two applications were sufficient to extract the salts. The work was kept in progress.

MYSORE

17. PAPANATHA TEMPLE, PATADKAL, DISTRICT BIJAPUR.—The work of removal of moss and lichen and extraction of soluble salts were carried out on the entire outer surface of the stone temple. The work inside was kept in progress.

18. GOMATESVARA STATUE, SRAVANABELGOLA, DISTRICT HASSAN.—After the treatment of the back side (1961-62, p. 146), the front of the statue was taken up for chemical treatment and preservation after the erection of a proper scaffolding for the mobile hoise at the height of 13.7 metres. The entire statue was coated with paraffin-wax dissolved in solvent oil and the work was completed in all respects.

19. GOMATESVARA STATUE, KARKALA, DISTRICT SOUTH KANARA.—The work of :he removal of oily matter and other accretions from the surface of the statue was taken up. Since the m*ahamastakabhisheka* ceremony of the statue was celebrated in 1962 it had become darker. By the use of suitable chemicals the statue was cleaned of all the accretions and finally it was preserved with a water-repellant solution.

20. DARIYA-DAULAT-BAGH, SERINGAPATAM, DISTRICT MANDYA.—In the north west enclosure the floral border-design on the dado all round, which had been previously coated with a preservative, were cleared with the help of chemicals. The white back ground of the border-design came out in its original brilliance. Similar border-patterns occurring in the south-east enclosure were cleaned. Work was in progress in the eastern antechamber.

ORISSA

21. BRAHMESVARA TEMPLE, BHUBANESWAR, DISTRICT PURI.—The chemical treatment of this temple was resumed (1961-62, p. 146). The *jagamohana* was taken up for treatment and the work progressed satisfactorily. The problem of eradication of vegetational growths like moss and lichen was successfully tackled. The work is in progress.

22. LINGARAJA TEMPLE, BHUBANESWAR, DISTRICT PURI.—The work on this temple, in continuation of last year's (1961-62, p. 146) work, remained in progress. The treat ment of the affected areas of this temple had proved satisfactory and the recurrence of algal growth was successfully checked. The work was kept in progress.

23. RAJARANI TEMPLE, BHUBANESWAR, DISTRICT PURI.—Experimental work on the suitability of fungicides over sandstone of different textures was continued on this monument.

24. UDAYAGIRI AND KHANDAGIRI CAVES, BHUBANESWAR, DISTRICT PURI.—Some sculptures and carved panels in these caves were chemically treated and preserved.

25. MAYA-DEVI TEMPLE, KONARAK, DISTRICT PURI.—The work on this temple is of a complicated nature (1961-62, p. 146). The age-old accretions deeply rooted in the badly-weathered stone structure hindered the progress. The stonework was consolidated after the elimination of salt from it (pl. CXI). The work progressed slowly and had to be kept in progress.

RAJASTHAN

26. JATA-SANKARA TEMPLE, CHITORGARH.—After the completion of the chemical conservation of the exterior of the temple last year (1961-62, p. 147), cleaning was extended to the bracket-figures inside the dome which were finally given a preservative coat.

27. PUNDARIKJI-KI-HAVELI, JAIPUR.—Approximately half of the painted area of delicate wall-paintings of this monument was chemically treated with promising results.

UTTAR PRADESH

28. CHINI-KA-RAUZA, AGRA.—The work inside the Rauza was continued (1961-62, p. 147). Due to the delicate nature of the work only a small portion could be treated this year. The work was kept in progress. Photographic records and sketches of the paintings were prepared. Attention was also paid to the work of filleting where necessary.

29. 'ABUL-FAZL AND FAIZI'S HOUSE, FATEHPUR-SIKRI, DISTRICT AGRA.—The paint ings on the walls were repaired and filleted to prevent further mechanical injury. Smoky and tarry accretions were carefully removed.

30. GROUP OF TEMPLES, JAGESHWAR, DISTRICT ALMORA.—The Mrityunjaya temple was given treatment for yegetational growth and fungus and finally preserved (pl. CXII) The lichen here had formed thick tufts on the surface due to dampness in the atmos-phere as there is no sunshine in the valley for long during the day.

31. ASVAMEDHA SITES, JAGATGRAM, DISTRICT DEHRA DUN.—The bricks of the *asvamedha-altars* including the inscribed ones in the third site were taken up for elimina tion of growth of moss and lichen in continuation of the last year's (1961-62 p 148) work. As before the treated bricks were impregnated with solutions of synthetic resins and the entire surface of bricks consolidated and strengthened.

WEST BENGAL

32. SYAMA-RAI TEMPLE, BISHNUPUR, DISTRICT BANKURA.—The chemical treatment of this ornate brick temple initiated last year (1961-62, p. 148) was extended to a large area with satisfactory results and made considerable progress during the year under report. Hardened accretions of moss and lichen were successfully removed. In the interior of the temple, the heavy smoke-layer hiding the decorations was removed with the help of lissapol D. Fungicidal and preservative treatment was carried on at the three sides of the exterior of the temple after completely clearing the vegetational growth. The original details of the terracotta plaques in the *garbhagriha* and western verandah were brought out by the removal of the thickly-deposited soot, oil and other accretions. The work will be carried out next year also.

TREATMENT OF EXCAVATED OBJECTS AND MUSEUM-EXHIBITS

Seven hundred and eightythree objects out of eight hundred and sixtytwo antiquities received from different quarters, of diverse metals like silver, copper, lead, iron, etc., were chemically treated and preserved. Thirtyeight specimens are receiving treatment.

Oil-painting no. 26 by Frederic G. Lewis, depicting the installation of Nawab Ghulam Muhammad Ghawas by Lord Elphinstone in 1842, which had been showing signs of decay, was taken up for chemical treatment. Experiments were conducted with various solvents restrained with oil of turpentine for the removal of varnish. The work is in progress.

The marble statue of Lord Cornwallis in Fort St. George Museum, Madras, which had remained completely covered with dust, dirt, oil, etc., was chemically treated. The two missing fingers and one thumb were restored with marble dust.

Besides cleaning thirty sculptures on display, in the art gallery of Raj-Bhavan at Mount Abu, altogether eight hundred and ninetyone antiquities, consisting of coins, bronze objects, sculptures, terracottas, etc., were treated in the laboratory of the Rajas-than State.[1]

A number of excavated and collected antiquities comprising objects of metal, terra-cotta and pottery were cleaned and preserved by the Directorate of Archaeology, West Bengal.[2]

ANALYSES AND RESEARCH

1. CHEMICAL ANALYSES.—The work of chemical analyses and examination of archaeological materials of diverse kinds was continued during the year. Out of three hundred and eightyfour specimens of metal, pottery, alloys, glass, clay, terracotta, plaster, stone, fat, etc., from Lothal, Ter, Nubia (Egypt), Golkonda, Sunet, Agra, Fatehpur-Sikri and Ajanta, the examination of two hundred and three specimens was completed and twentyeight specimens are under process. The reports of these investigations are under preparation.

2. GEOCHRONOLOGICAL STUDIES.—Considerable progress was made in the geo-chronological studies of a fairly large number of soil-samples from excavated sites. Their

1 Information from the Director, Archaeology and Museums, Rajasthan.

2 Information from the Director of Archaeology, West Bengal.

mechanical analysis and heavy-mineral examination were carried out. Geochronolo-gical examination of soil-samples from excavations at Kuchai and Baidyapur in Orissa and Hoshangabad and Jabalpur in Madhya Pradesh was completed. The report is under preparation.

Specimens of laterite, numbering fortytwo from Bhubaneswar and Konarak in Orissa and Mirzapur in Uttar Pradesh, were examined. The work being of a complicated nature may take considerable time and will continue.

Thin sections of rock-specimens from Hoshangabad rock-shelters and Dorothy Deep and Bania-Beri caves at Pachmarhi were prepared and studied petrographically for determining the causes of weathering of rock and paintings at those places.

Thin sections of twentyfive specimens of rock from Nubia, Egypt, were subjected to petrographic examination and photomicrographs taken for their identification. The report is under preparation.

Seventyeight bead-specimens from the excavations at Sisupalgarh and Lothal were studied for the identification of the raw material and technology used in their manu-facturing.

VIII. ARCHAEOLOGICAL GARDENS[1]

ANDHRA PRADESH

1. HILL-TOP, NAGARJUNAKONDA, DISTRICT GUNTUR.—After clearance of the site as preparatory to laying out a garden on the hill-top, such areas as were found suitable were brought under gardening. The gardening-operations included the laying of lawns around the Rest-house, carving out of informal flower-beds both in first and second en closures and planting of shrubs in the crevices in the rock. For the proper irrigation of the gardens, a network of pipe-lines was laid out. A garden was also maintained near the Antiquities Section.

DELHI

2. ARCHAEOLOGICAL GARDENS.—The lawns at Humayun's tomb, Safdarjang and Kotla Firuz Shah gardens, which had become infested with weeds, were returfed.

The work of laying out a garden at a new site at 'Arab-ki-Sarai and developing a strip of land near the southern gate of Humayun's tomb was also taken up. All other archaeological gardens in Delhi and New Delhi were kept in a presentable condition throughout the year.

KERALA

3. MISCELLANEOUS GARDENS.—General improvements were made in the gardens attached to Cheraman-Parambu monument, Krishnapuram palace and that inside the Kottapuram fort by introducing lawns and new fruit-trees and flower-plants.

MADHYA PRADESH

4. WESTERN GROUP OF TEMPLES, KHAJURAHO, DISTRICT CHHATARPUR.—The gardens here in general suffer considerably due to scarcity of water from October to June. In order to augment the water-supply one of the wells was bored and a diesel pumping-set installed.

MADRAS

5. PALACE, PADMANABHAPURAM, DISTRICT KANNIYAKUMARI.—The garden was improved by the cutting off of useless trees, removal of unwanted growth and introduction of new flower-plants.

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1 Information from : 3 and 5, the Director of Archaeology, Kerala; 10, the Director of Archaeology and Museums, Rajasthan; and the rest, the Superintendent, Gardens Branch of the Survey

MAHARASHTRA

6. SHANWARWADA, POONA.—Besides effecting an all-out improvement in the maintenance of the garden, operations were extended to the other plots as well which were filled with huge boulders and debris. Nice grassy plots were laid with flower-beds and dotting of shrubs to form an integral part of the existing garden.

MYSORE

7. GOL-GUMBAD, BIJAPUR.—The most limiting factor for rearing gardens on an extensive scale around this monument was the lack of water in the vicinity. A comprehensive scheme was, therefore, worked out to bring water to this monument by means of gravity-flow from the moat attached to Gagan-Mahal which had a perennial source of water. According to the scheme, an overhead tank was provided and a gravity-main was laid up to Gol-Gumbad. The internal work of providing distribution lines and hydrants in different plots was also completed, as a result of which the problem of supply of water was solved and the gardens around it were maintained properly through out the year.

8. JOD-GUMBAD, BIJAPUR.—Here also adequate supply of water was ensured by desilting one of the *baolis* and installing in it a diesel pumping-set. The garden around the monument was maintained properly.

RAJASTHAN

9. PALACES, DIG, DISTRICT BHARATPUR.—The garden was improved by the introduction of large numbers of roses of different varieties and *jasminums* in the beds and of a good variety of shrubs in the shrubbery-borders.

10. MISCELLANEOUS GARDENS.—The gardens attached to the palace at Amber, District Jaipur, astronomical observatory at Jaipur and monuments at Mandore were maintained.

UTTAR PRADESH

11. GARDENS, AGRA.—The wild growth in the lawns at Taj, Fort and Sikandara gardens was dug out and the areas were returfed with good quality of *dub*-grass and maintained in a trim condition.

12. GROUP OF MONUMENTS, FATEHPUR-SIKRI, DISTRICT AGRA.—The bare surround ing area of the monuments here which had a desolate look was changed into attractive sites by the introduction of suitable lawns and gardens. The important monuments of the group such as Panch-Mahal, Diwan-i-'Am, Zanana-Bagh, etc., received particular attention.

The problem of water-scarcity at this site was also considerably eased by the reconditioning of one of the ancient wells and installing in it a diesel engine coupled with a high-head pump which would feed the overhead tank. From this tank water is distributed to the different sections of the garden through distributory pipe-lines.

For the proper protection of the garden the entire archaeological area was brought within a barbed-wire fencing. The trees growing within the premises were lopped to impart proper shape to them. Besides these, woodland and terraced gardens were also created at appropriate places.

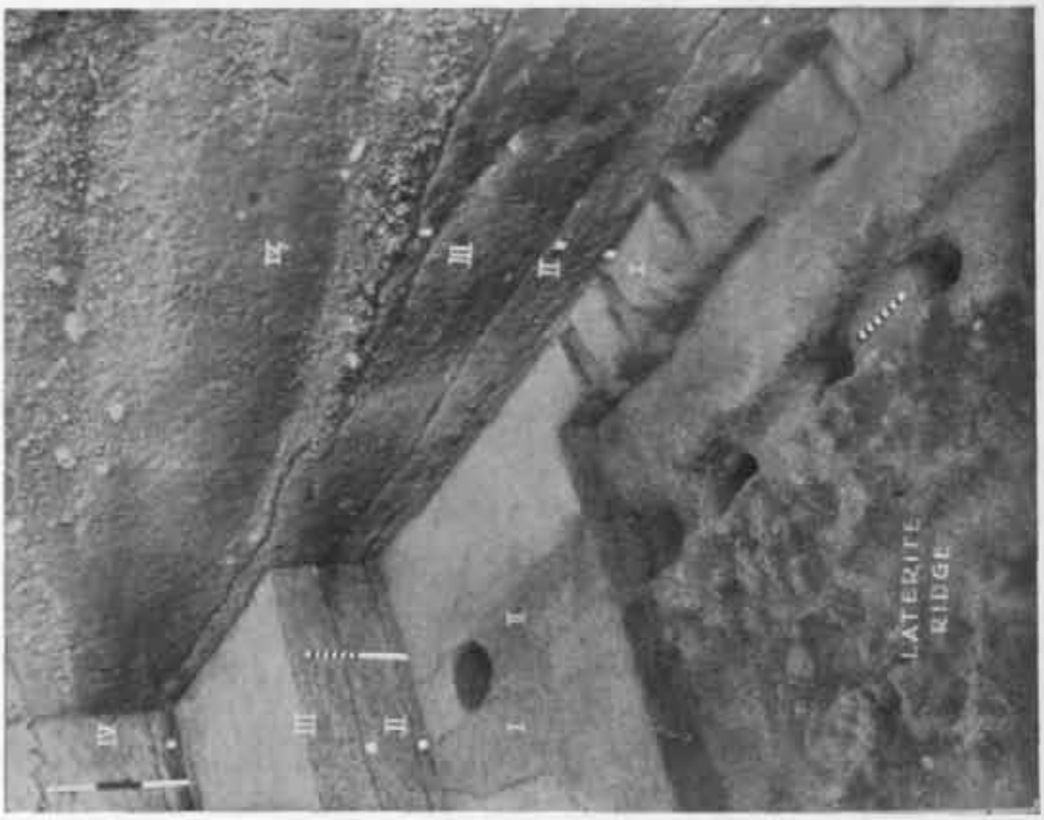
IX. PUBLICATIONS

PUBLICATIONS OF THE SURVEY

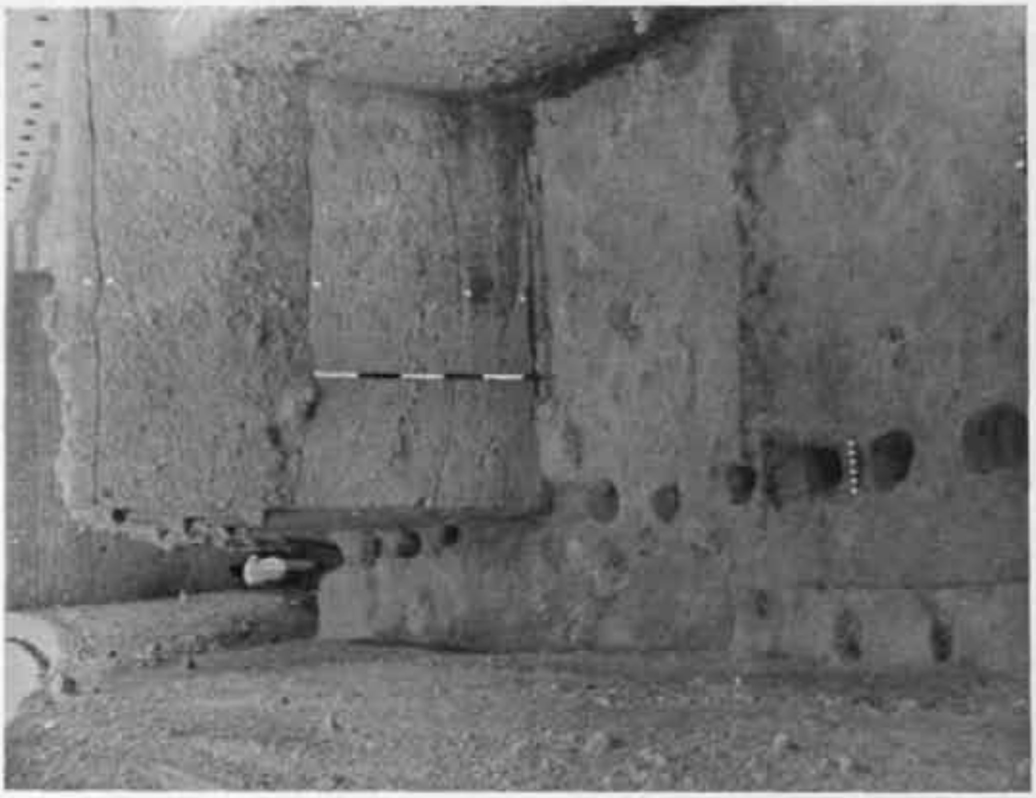
1. `ANCIENT INDIA'.—Number 16 (1960).
2. `EPIGRAPHIA INDICA'.—Part i (January, 1963) of volume XXXV.
3. `EPIGRAPHIA INDICA'—ARABIC AND PERSIAN SUPPLEMENT.—Numbers for 1959 and 1960 (biennial issue) and for 1961 (annual issue).
4. GUIDE-BOOKS.—*Sanchi* and *Rajgir*, both in Hindi.
5. PICTURE-POSTCARDS.—Ajanta (black-and-white), Bijapur, Chitorgarh, Ellora, Khajuraho, Mandu and Sanchi (all reprinted sets); and Alampur and Gwalior (both fresh sets).
6. SOUTH INDIAN INSCRIPTIONS SERIES.—*Inscriptions of the Early and Medieval Pandyas*, volume XIV of the series, by A. S. Ramanatha Ayyar.

OTHER PUBLICATIONS

7. MONOGRAPHS.—*Environment of Early Man with Special Reference to the Tropical Regions*, by F. E. Zeuner (Maharaja Sayajirao University, Baroda); *Ceilings in the Temples of Gujarat*, by J. M. Nanavati and M. S. Dhaky (Bulletin of the Museum and Picture-gallery, volumes XVI and XVII, Museum and Picture-gallery, Baroda); *Archaeological Discoveries in West Bengal*, by P. C. Dasgupta (Department of Archaeo logy, West Bengal, Calcutta); *Jain Vestiges in Andhra*, by S. G. Krishnamurti, and *Yeleswaram Excavations*, by Mohd. Abdul Waheed Khan (Department of Archaeology, Andhra Pradesh, Hyderabad); *Bronzes of South India*, by P. R. Srinivasan (Government Museum, Madras); and *Indian Archaeology Today* and *Prehistory and Protohistory of India and Pakistan*, both by H. D. Sankalia (Deccan College Post-graduate and Research Institute, Poona).
8. PUBLICATIONS RELATING TO MUSEUMS.- *Catalogue of Early Indian Coins in the Asutosh Museum*, by Chittaranjan Roy, and five sets of picture-postcards, respectively relating to Bengal manuscript-covers, Bengal *pats*, Nepalese manuscript-paintings, Orissa *pats* and the *Ramayana* of Tulasidasa (Asutosh Museum, Calcutta); and *Amaravati Hoard of Silver Punch-marked Coins*, by P.L. Gupta, and *Eastern Chalukyan Coins*, *Select Gold and Silver Coins and Vishnukundin Coins*, *in the Andhra Pradesh Government Museum*, all by M. Rama Rao (Department of Archaeology, Government of Andhra Pradesh, Hyderabad.



A

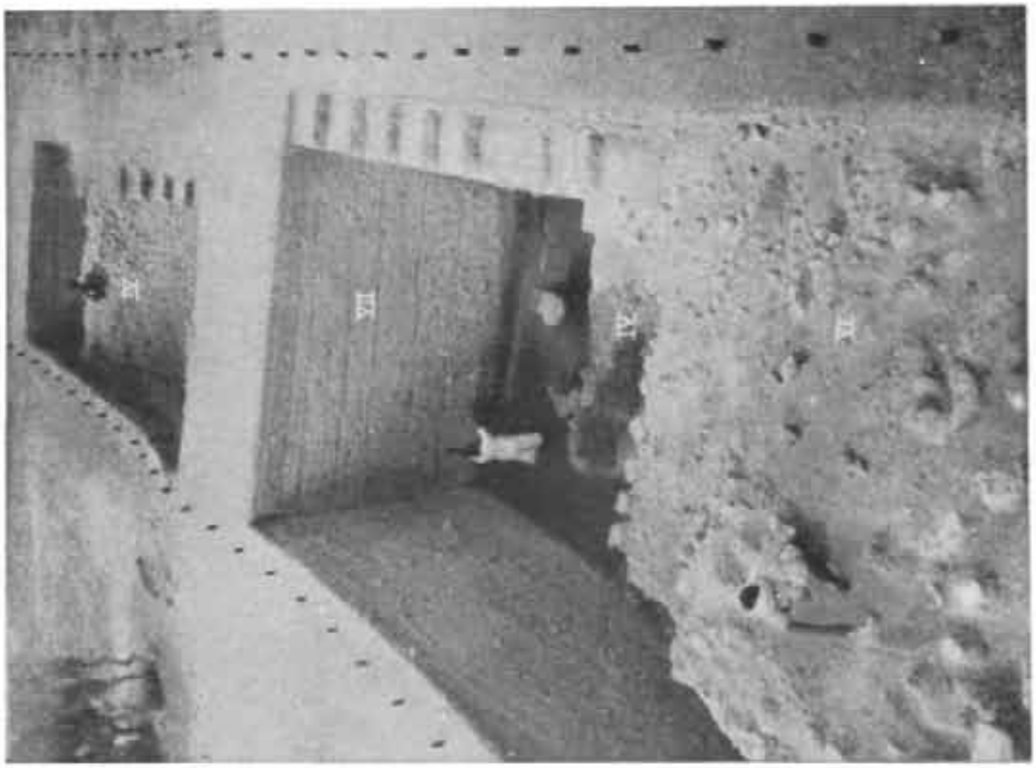


B

Dharanikota: A, *successive occupational deposits;* B, *rows of post-holes of a wharf, Phase III*



A



B

Dharanikota: A, *brick wall of Phase III along navigation-channel;* B, *retaining-wall of laterite blocks, Phase V*

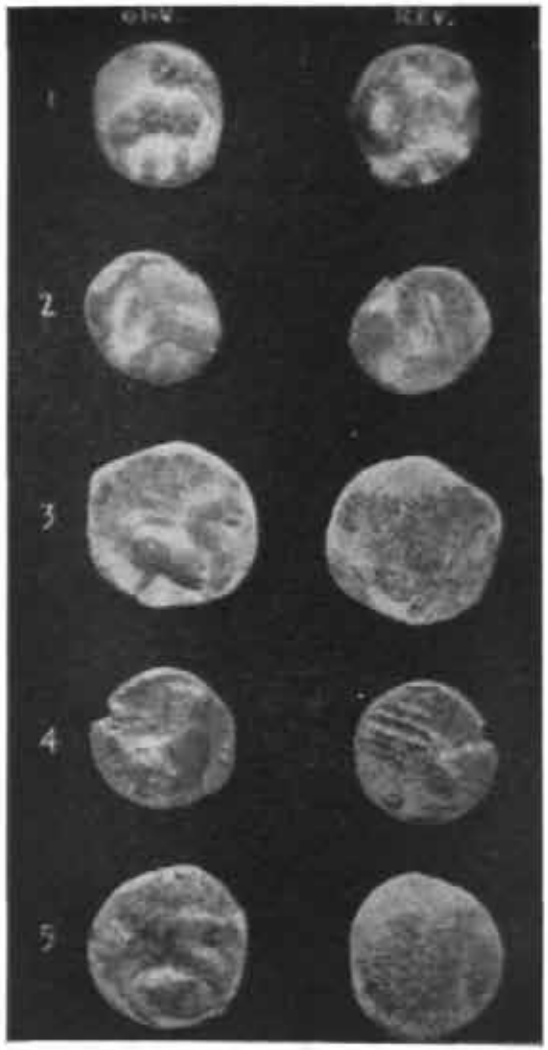


A



B

Dharanikota: A, *brick revetment with laterite-gravel packing, Phase IV;* B, *retaining-wall of laterite blocks, Phase V*

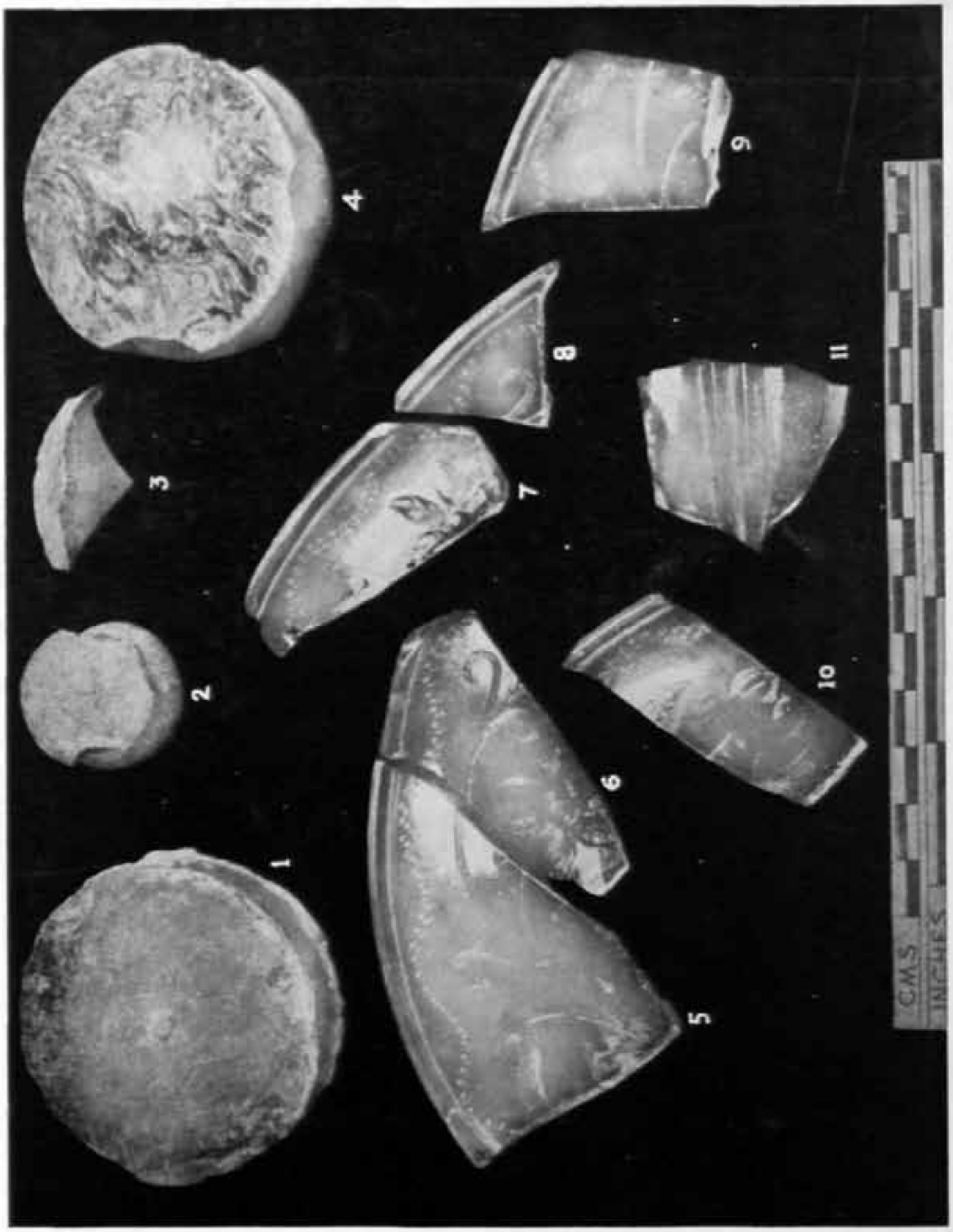


A

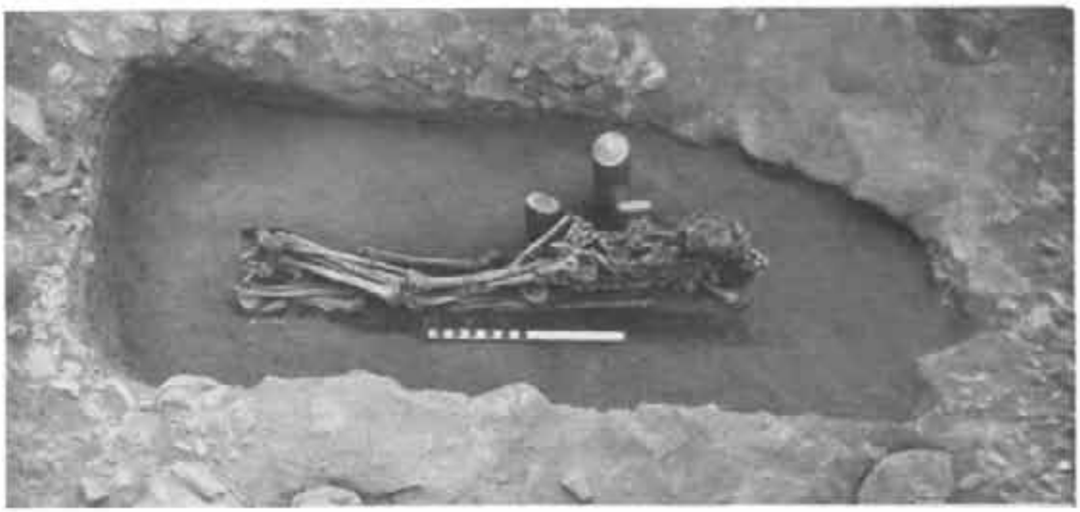


B

Dharanikota: A, *later Satavahana coins;* B, *other small finds*



Dharanikota: glass objects



A

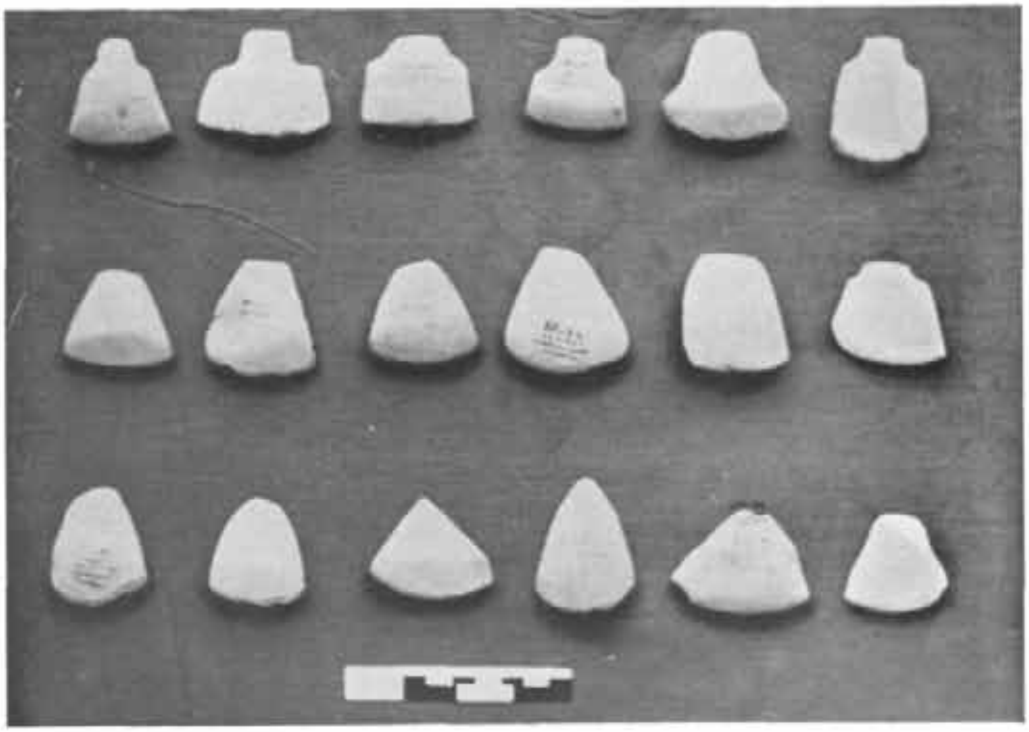


B

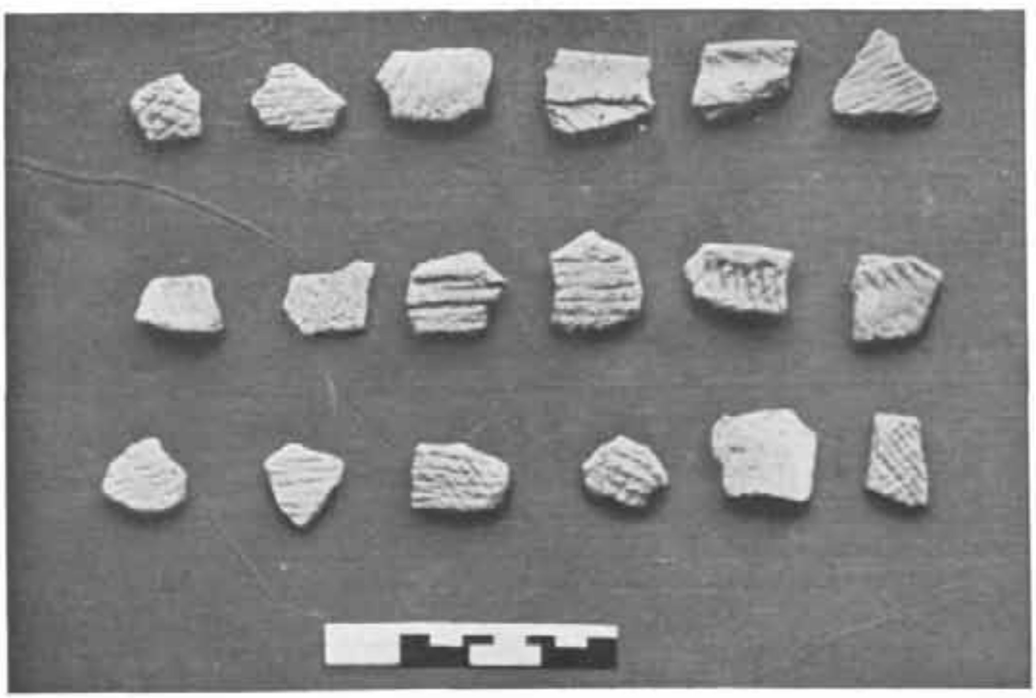
Yeleswaram: A, *twin burial in a cairn-circle, and* B, *its associated grave-furniture*



Yeleswaram: terracotta figurines



A



B

Daojali-Hading: A, *neolithic implements;* B, *pottery with basket-and-cord impressions*



Antichak: mutilated image of Avalokitesvara inside a chamber



A



B

Balirajgarh: brick fortification



A B C D

Balirajgarh: terracotta plaques



B

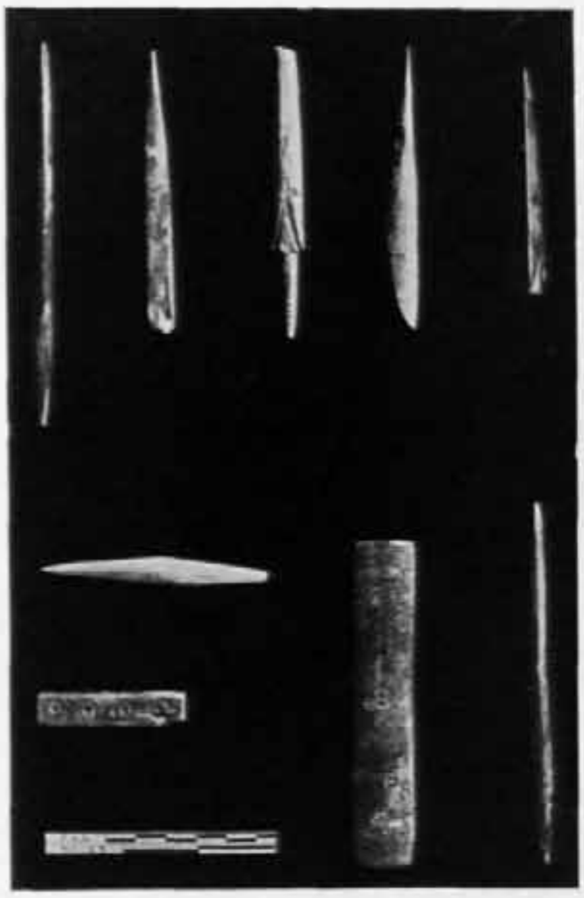


A

Rajgir: A, *occupational deposits below southern defences;* B, *steatite plaque, Period I*



A



B

Chirand: A, *monastic wing, Period III;* B, *bone and ivory objects, Period I*

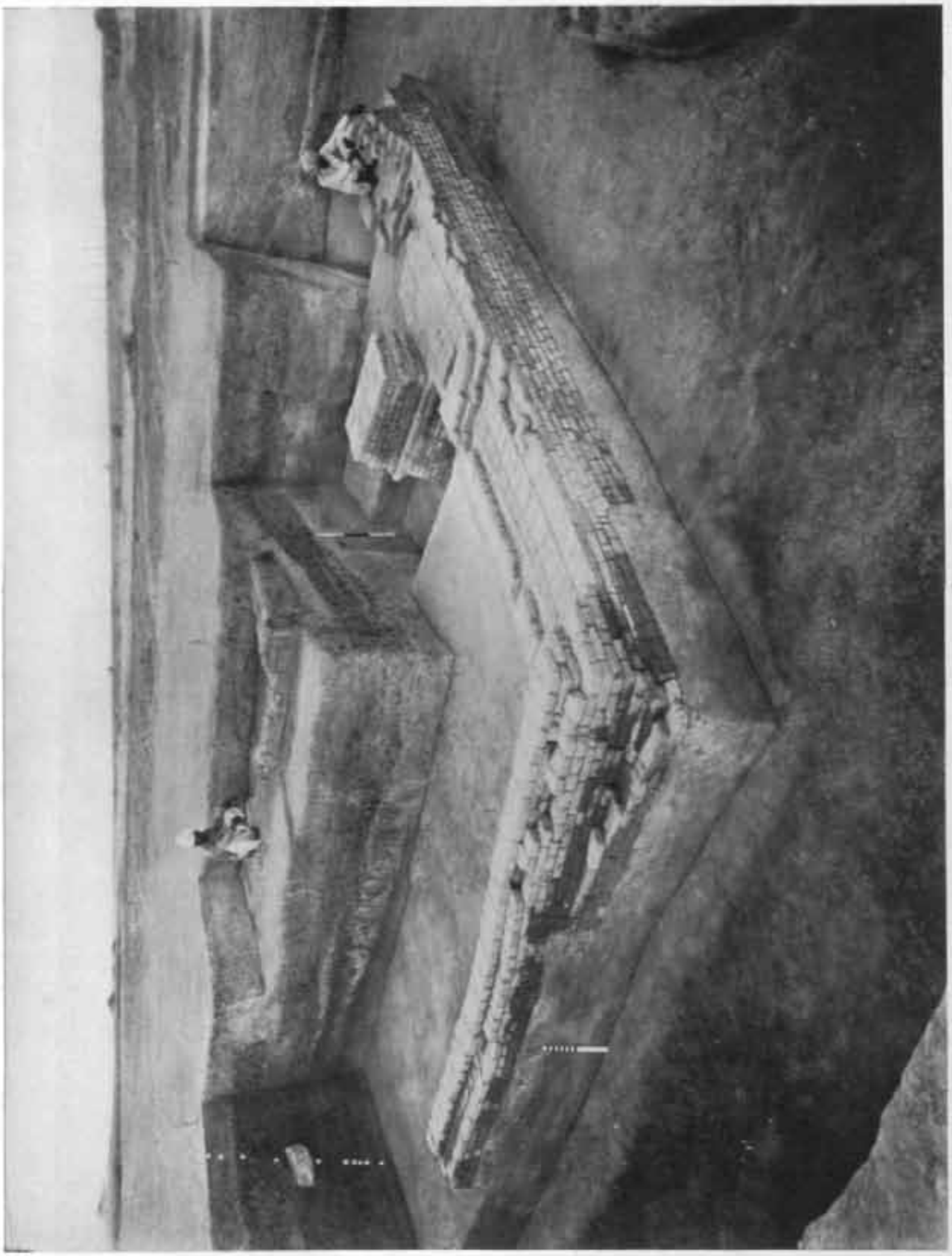


A



B

Chirand: A, *terracotta figurines;* and B, *a carved clay tablet, Period III*



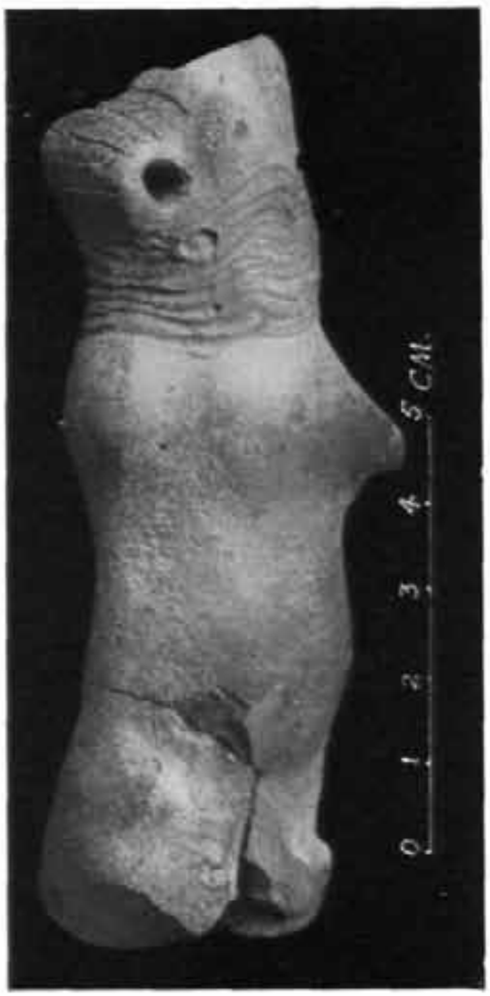
Lothal: massive brick wall, Phase II



B



D

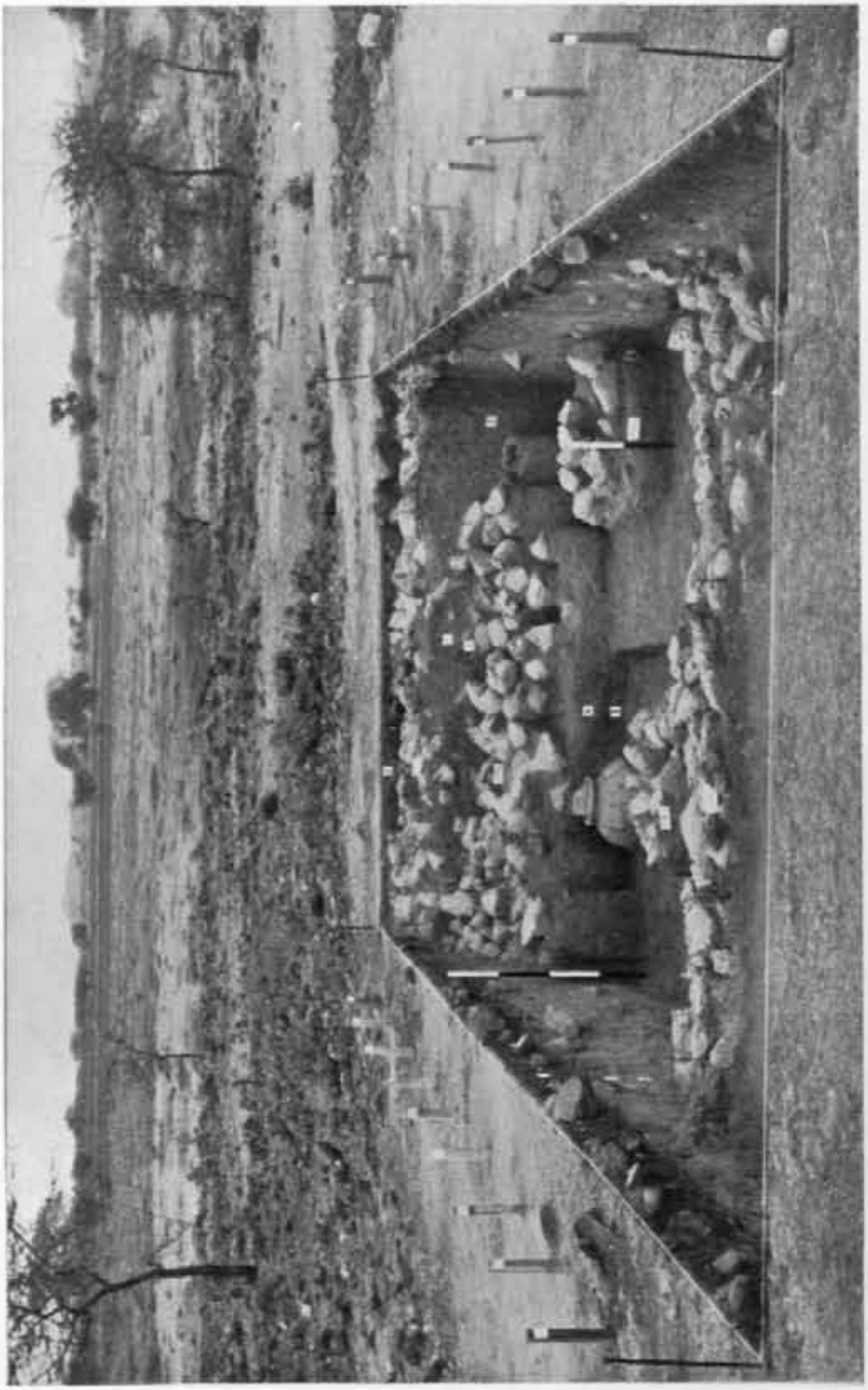


A



C

Lothal: A, *terracotta bull;* B *to* D, *seals*



Rojdi: two structural phases, Period I



A



B

Devnimori: A, *platform with offsets inside stupa;* B, *terracotta images of Buddha*



A



B



C

Devnimori: A, *earthen pot;* B, *inscribed stone casket;* C, *relics inside a circular casket*



A

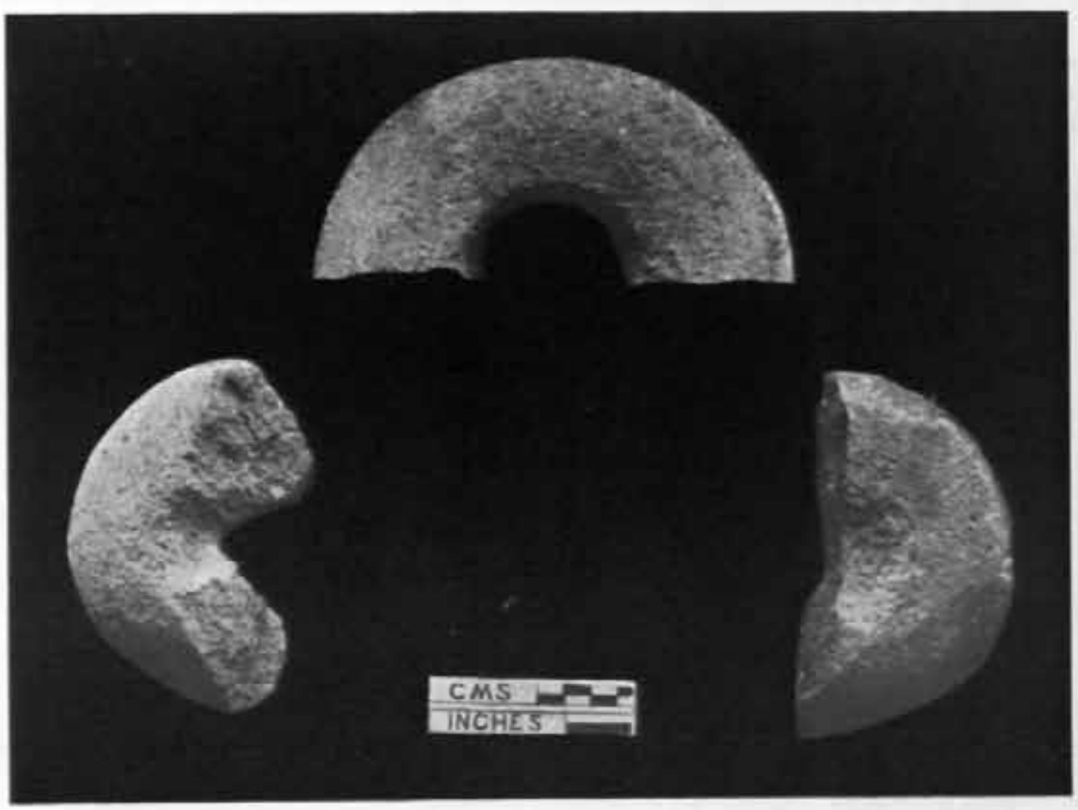


B

A, *Hariparigom*, and B, *Gofkral: menhirs*

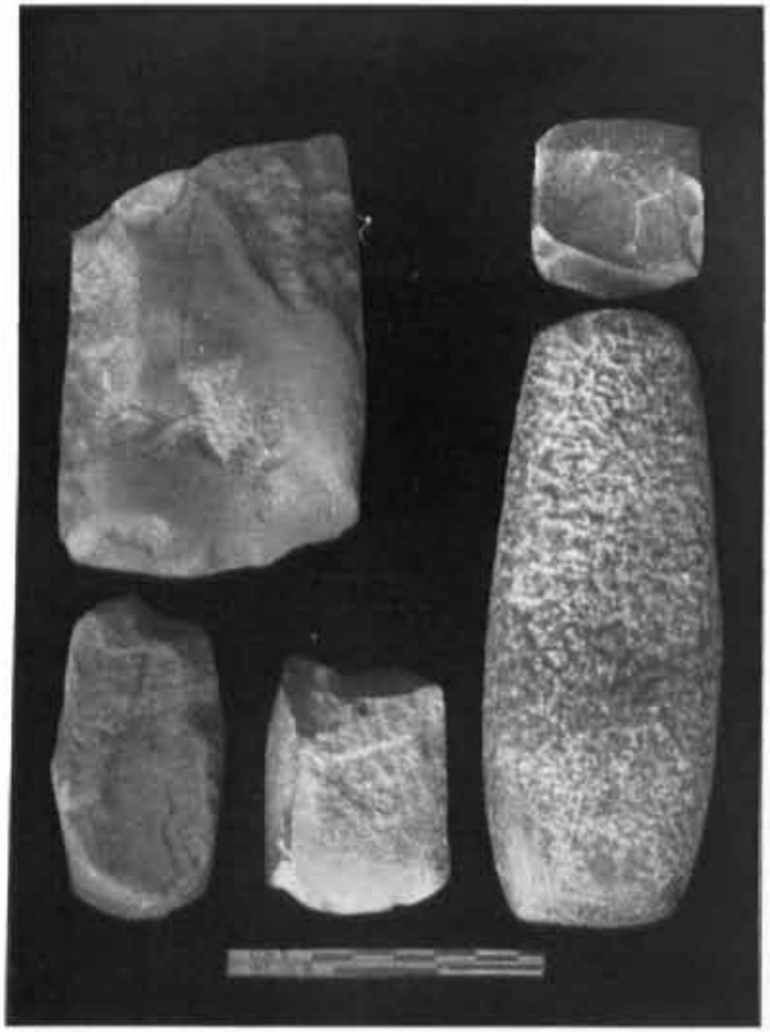


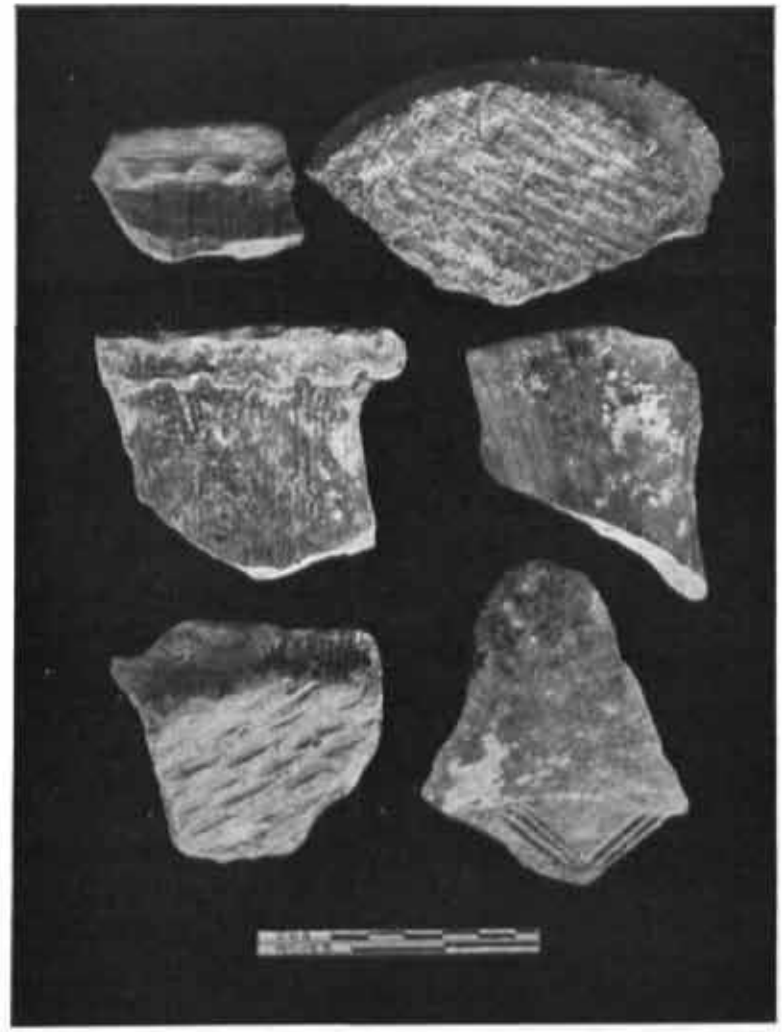
A



B

A, *Gofkral: dwelling-pit;* B, *different sites, District Anantnag; mace-heads*





A B

Different sites, District Anantnag: A, *neolithic celts*; B, *gritty red ware with or without mat-impressions*



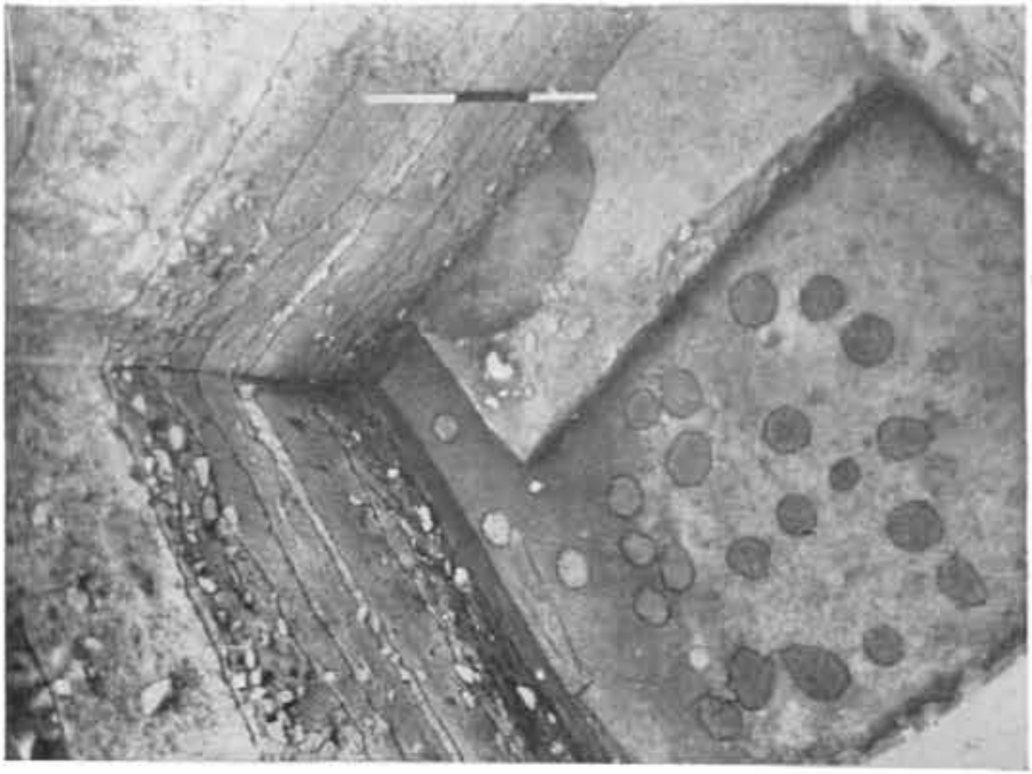


A B

Burzahom: A, mud-platforms and storage-pits; B, post-holes on house-floors

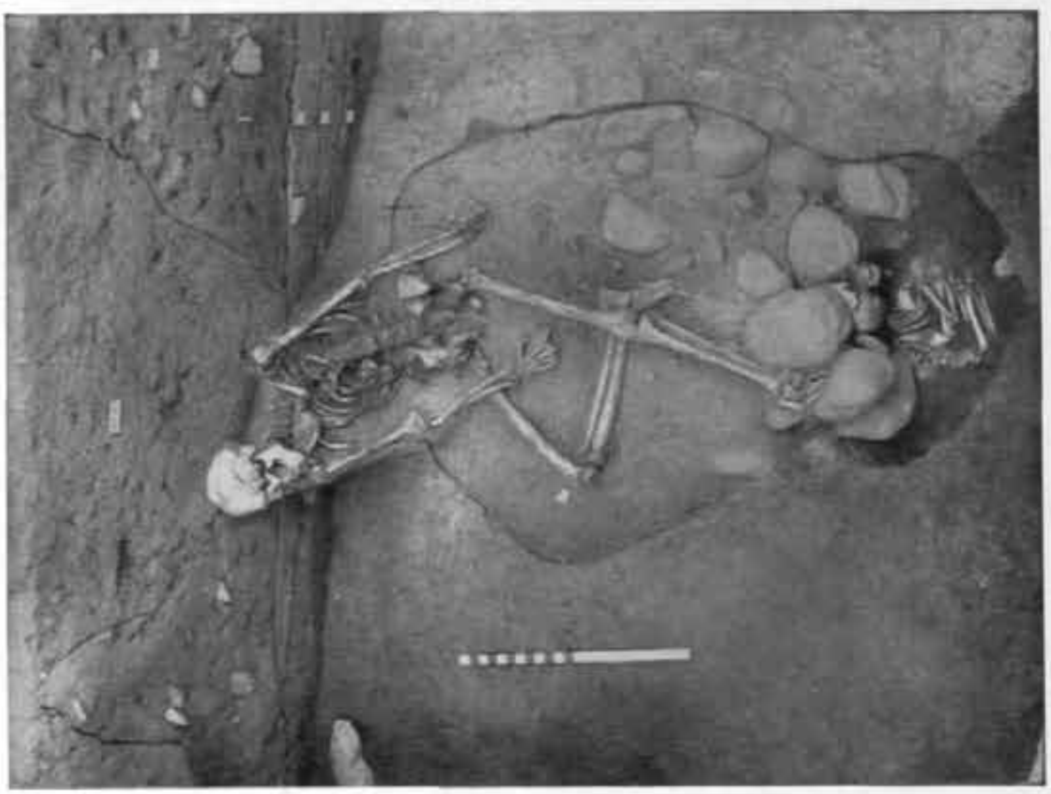


A



B

Burzahom: A, *oblong structure of upright slabs;* B, *post-holes*



A



B

Burzahom: burials of Phase II

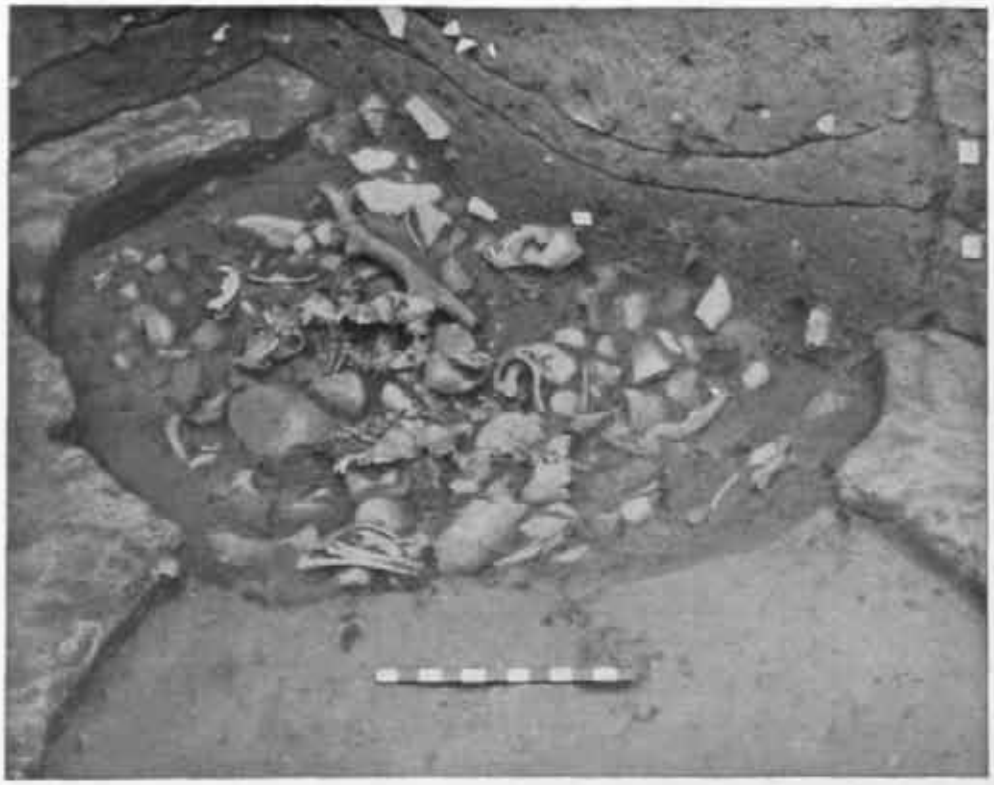


A



B

Burzahom: A, *human skeleton with traces of red ochre;* B, *skeletal remains, probably of an ibex*

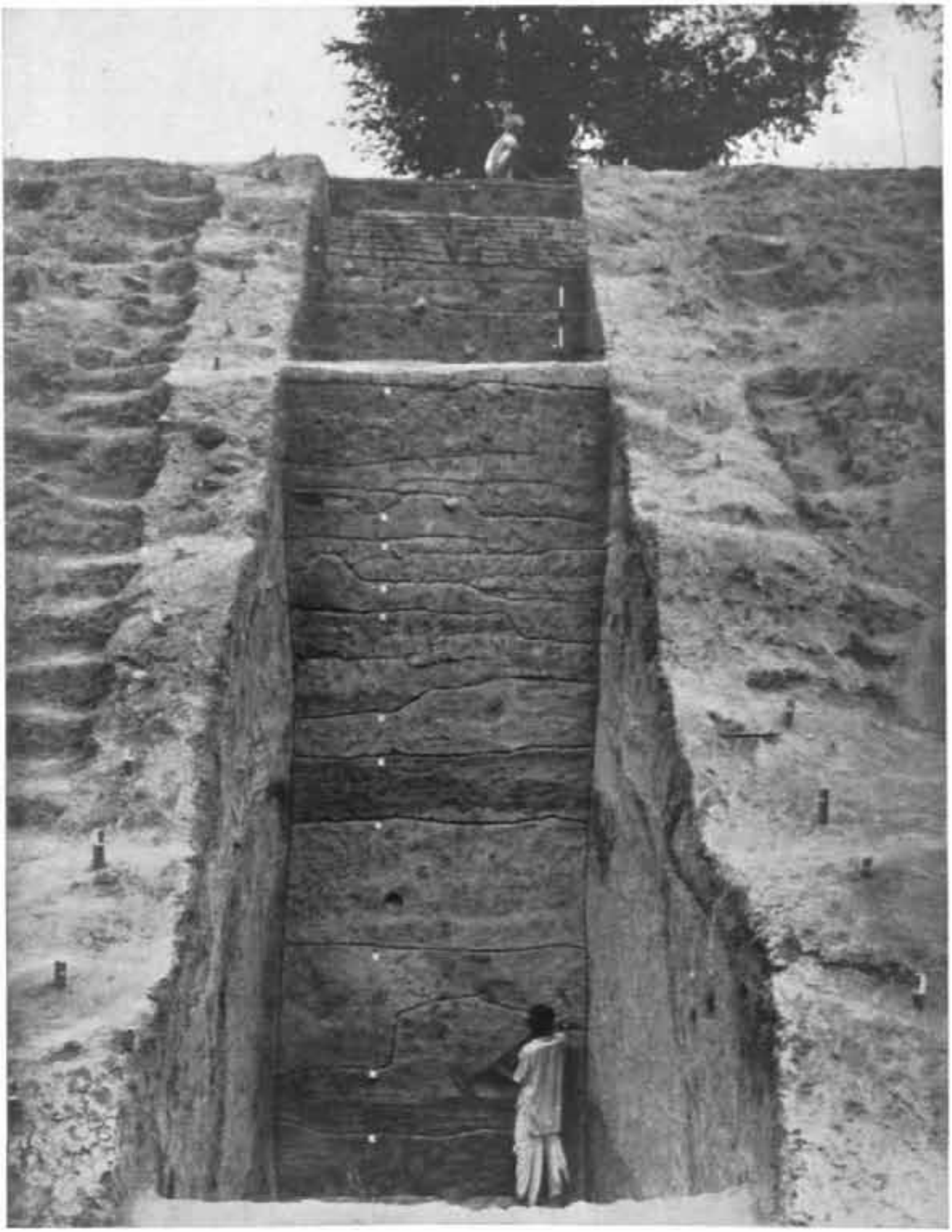


A

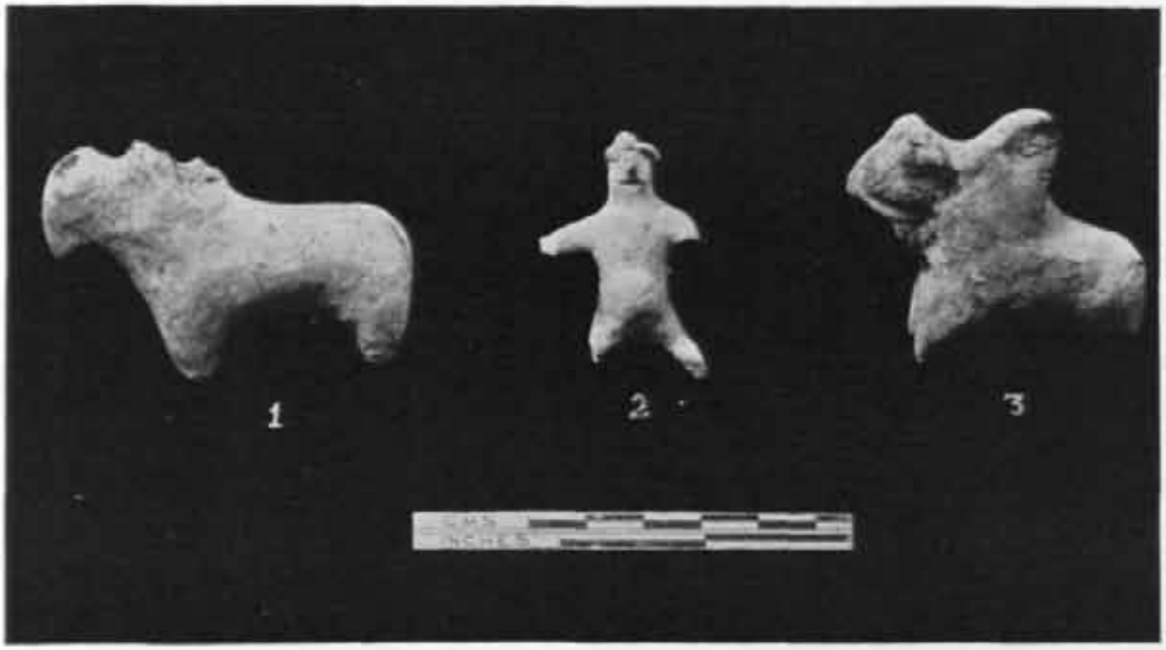


B

Burzahom: A, *skull-fragments of wild dogs in a grave-pit;* B, *skeleton of a wild dog*



Bilawali: excavated trench



A

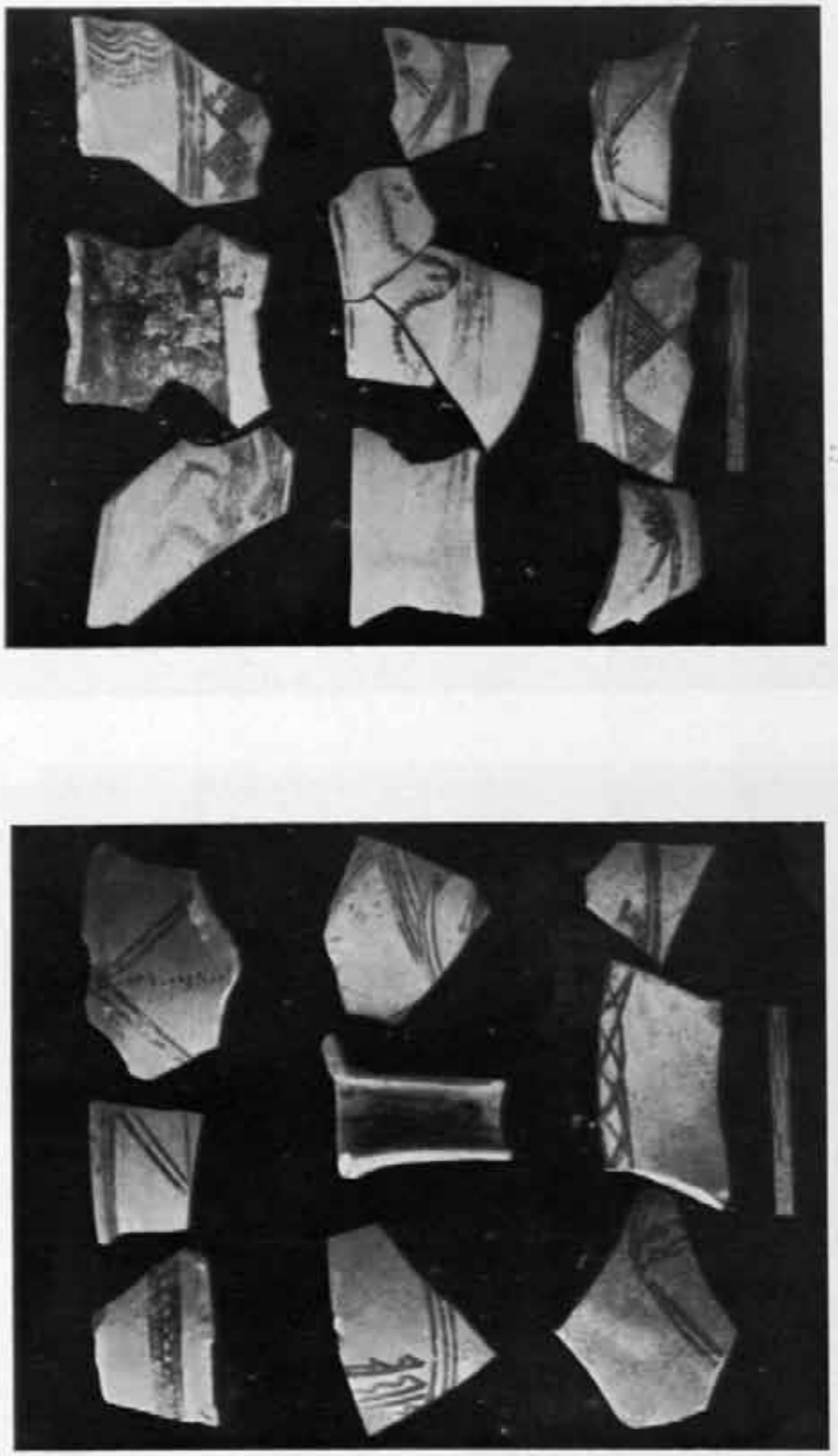


B

Bilawali: A, *terracotta figurines, Period II;* B, *stone images, Period IV*

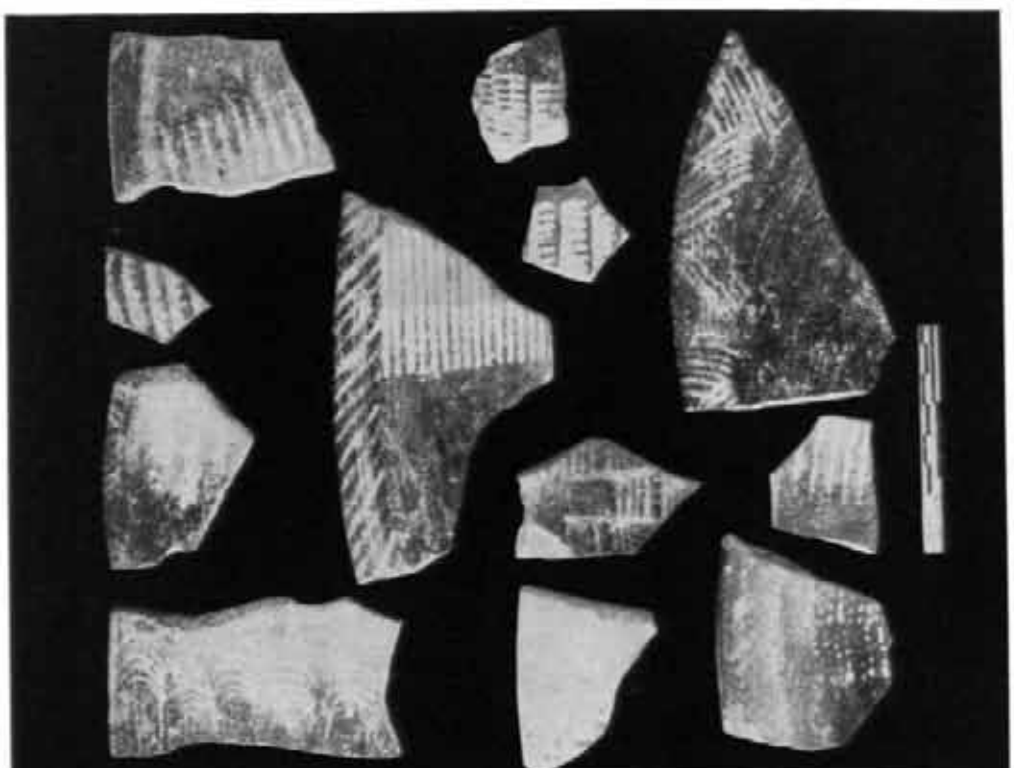


Eran: section across mud-rampart

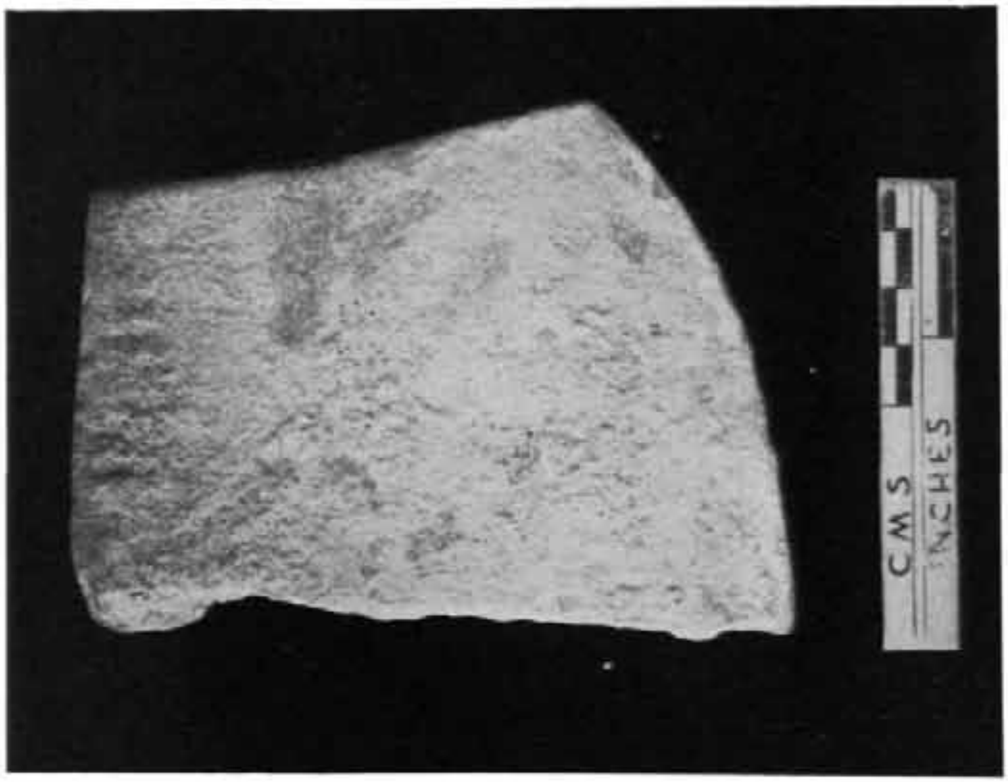


A B

Eran: black-painted red ware, Period I



A



B

Eran: A, *white-painted black-and-red ware, and* B, *fragmentary copper celt, Period I*

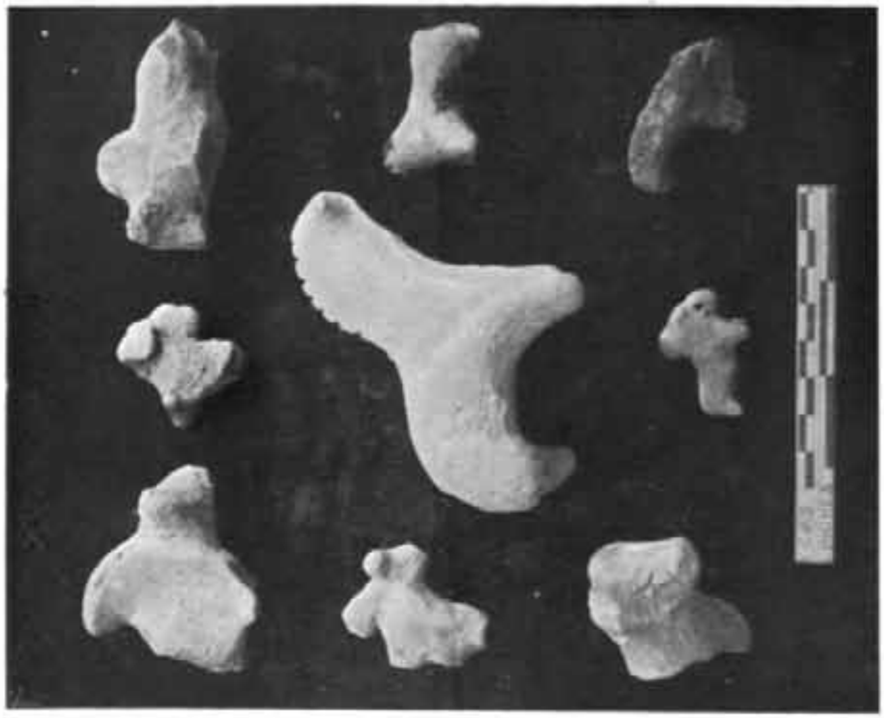


A

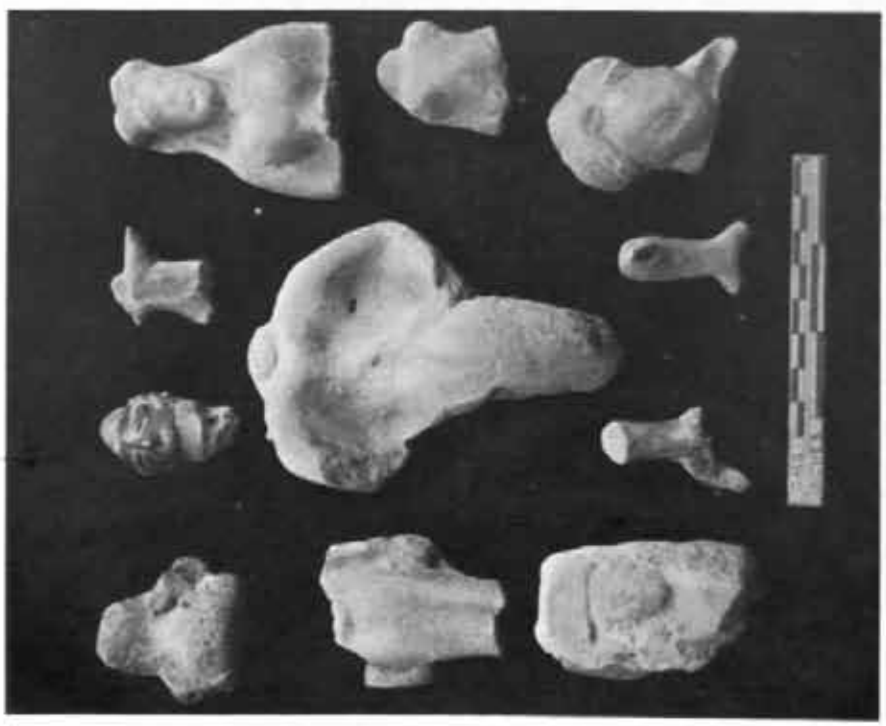


B

Eran: A, grey painted ware; and B, microliths, Period I



B



A

Eran: terracotta figurines, Periods I to IV

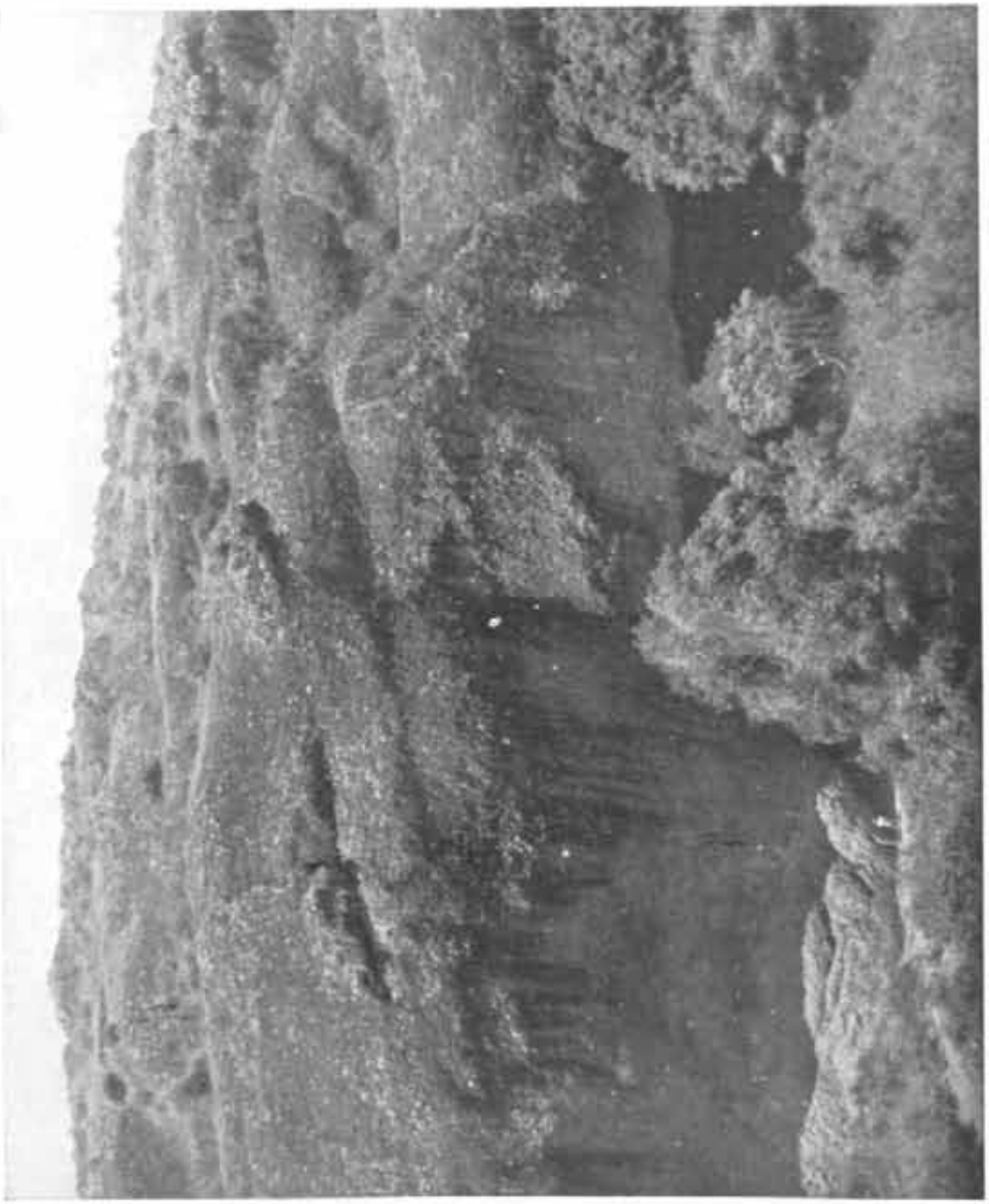


A

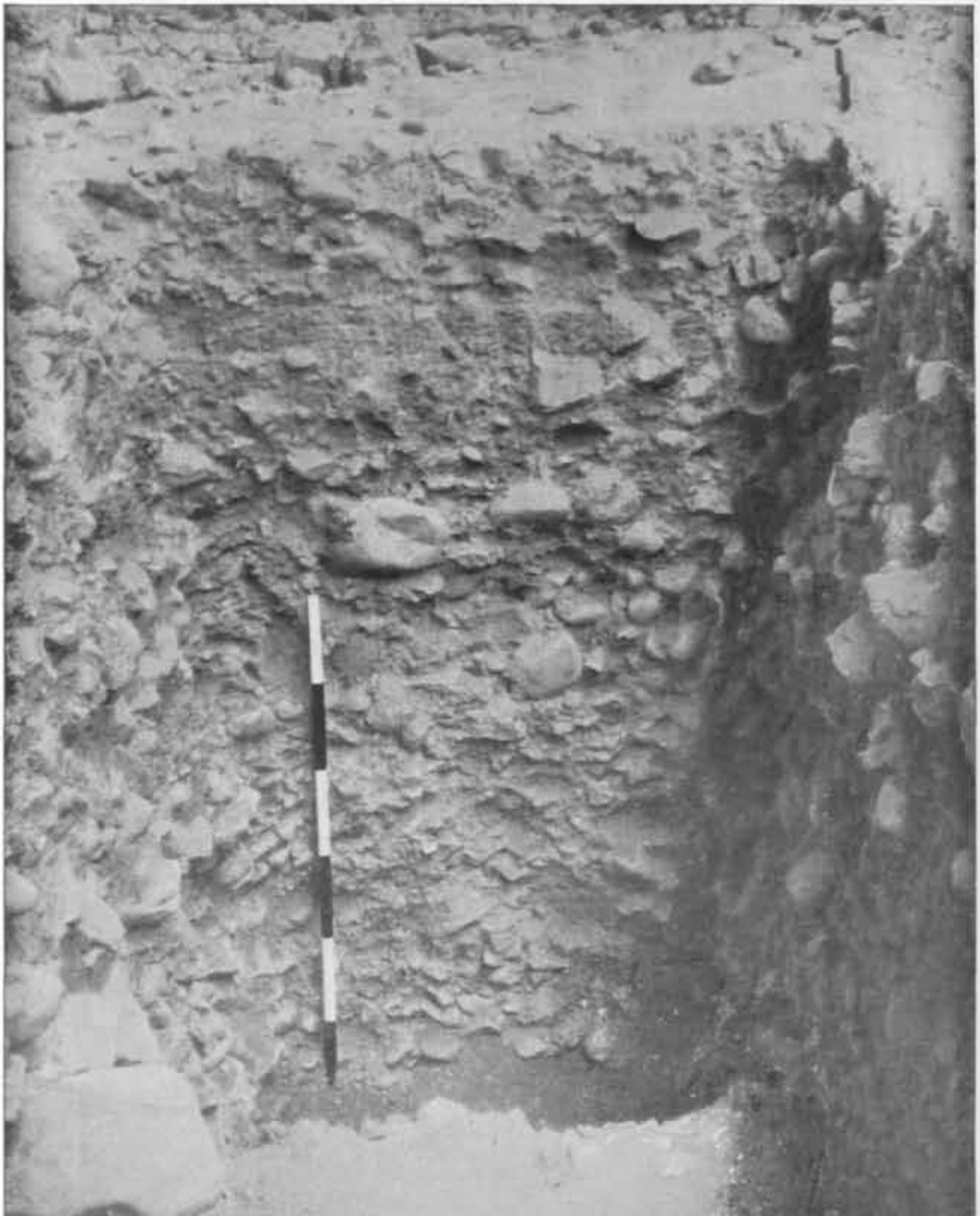


B

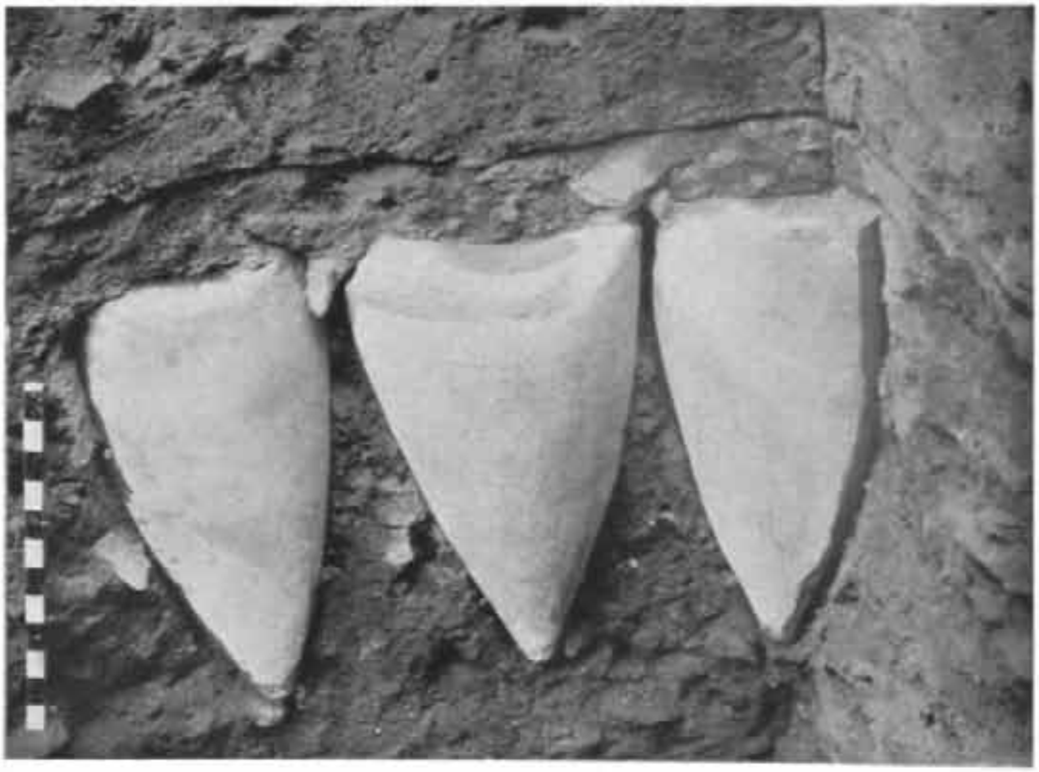
Eran: A, *bone tools, Period II;* B, *inscribed seal, Period III*



Gudiyam: general view of a rock-shelter



Gudiyam: implementiferous deposit inside a cave



A

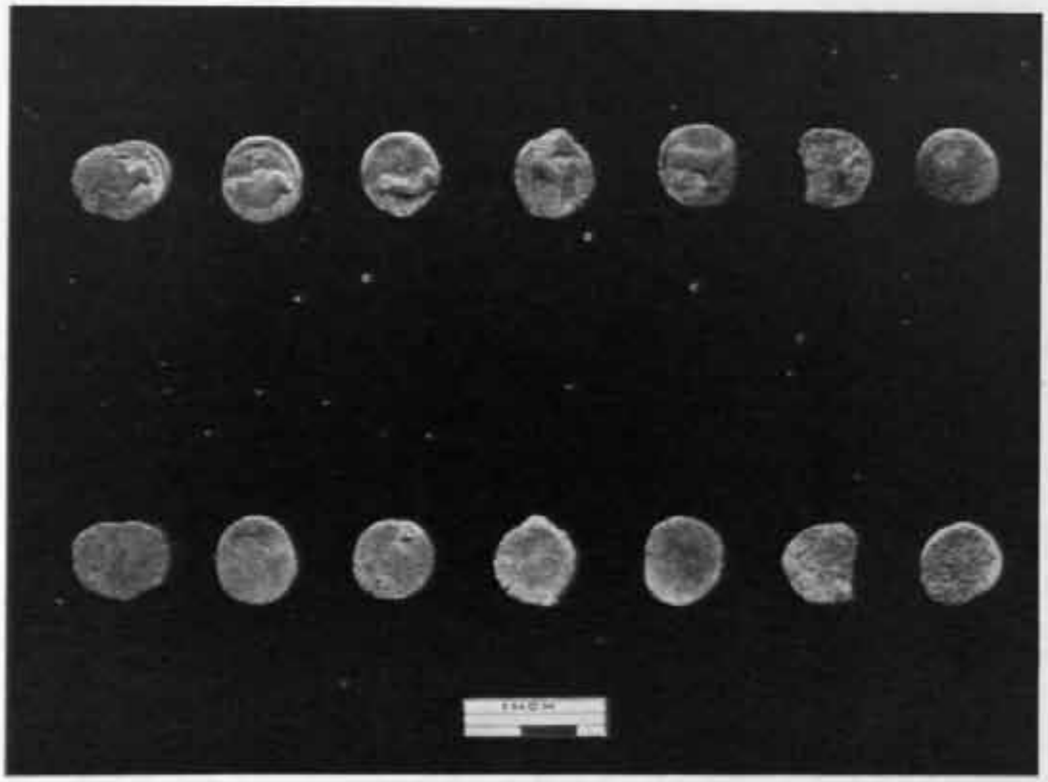


B

Kanchipuram: A, *amphorae;* B, *terracotta figurines*



A



B

Kanchipuram: A, *miscellaneous terracotta objects*; B, *lead coins*



A



B

Kilaiyur: A, *brick structure;* B, *remains of wooden posts*



A



B

Kaveripattanam: A, *terracotta figurines;* B, *Chola copper coins*

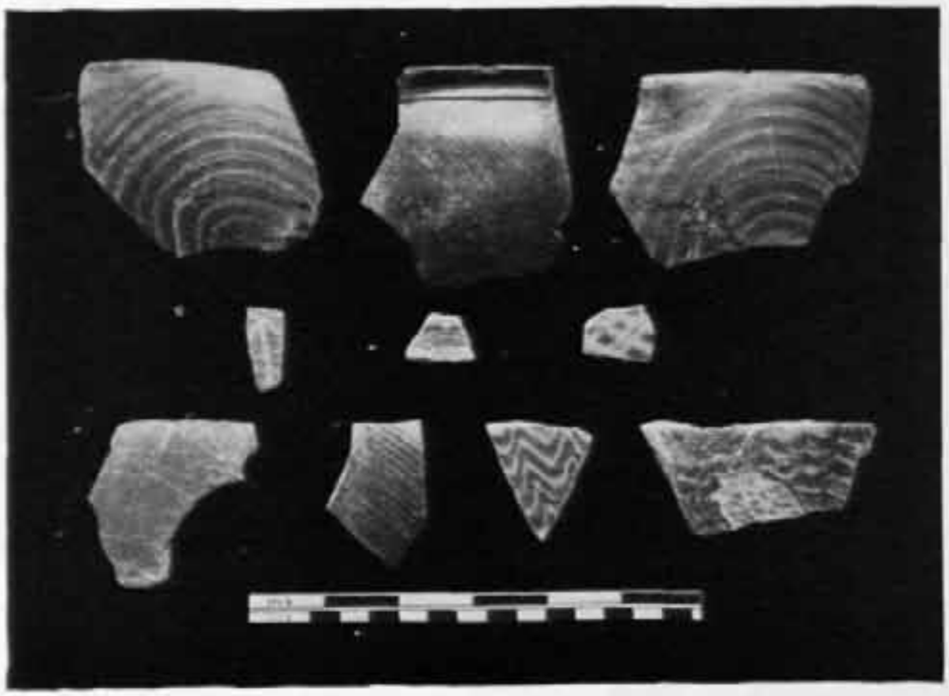


A



B

Tirukkambuliyur: structural remains



A



B

Tirukkambuliyur: A, *Russet-coated Painted Ware;* B, *terracotta objects*

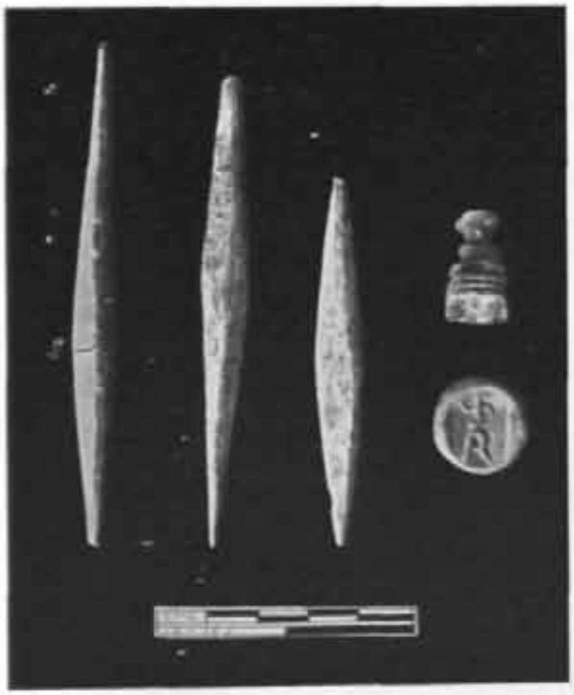


A



B

A, *Khokhra-kot: terracotta plaque;* B, *Pushkar (Saptarshighat): sculptured panel*



A



B

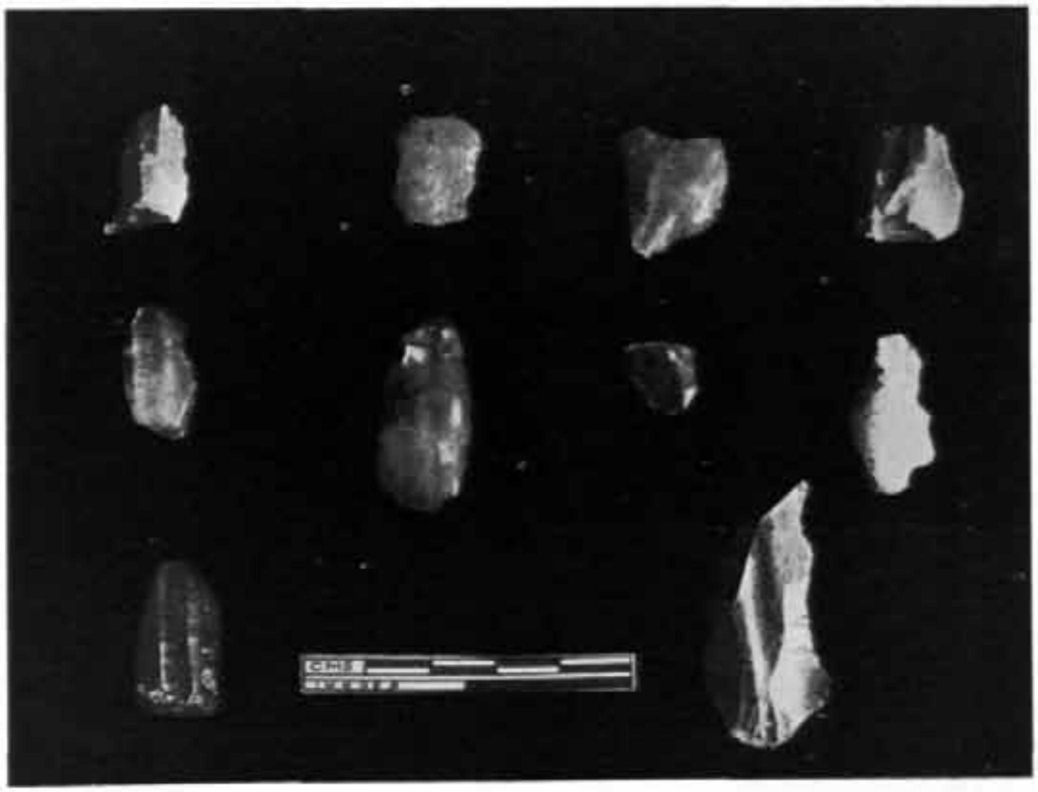


C

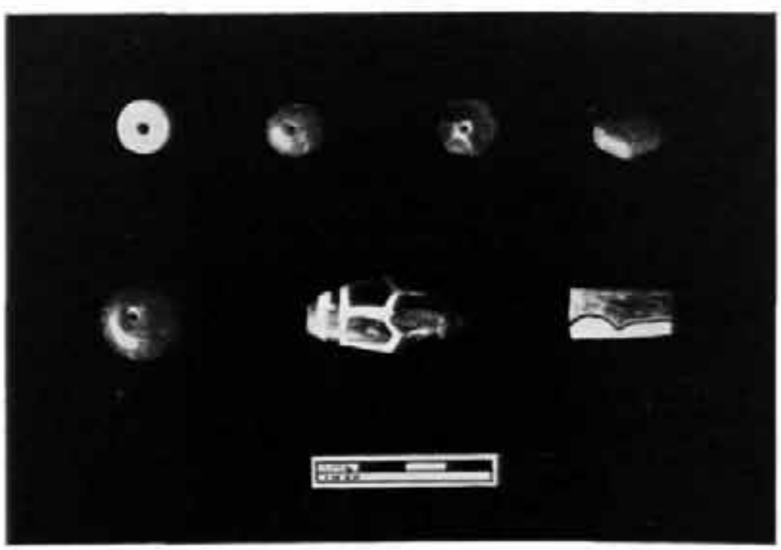


D

Nagari; A, *bone objects;* B *to* D, *terracotta figurines*



A

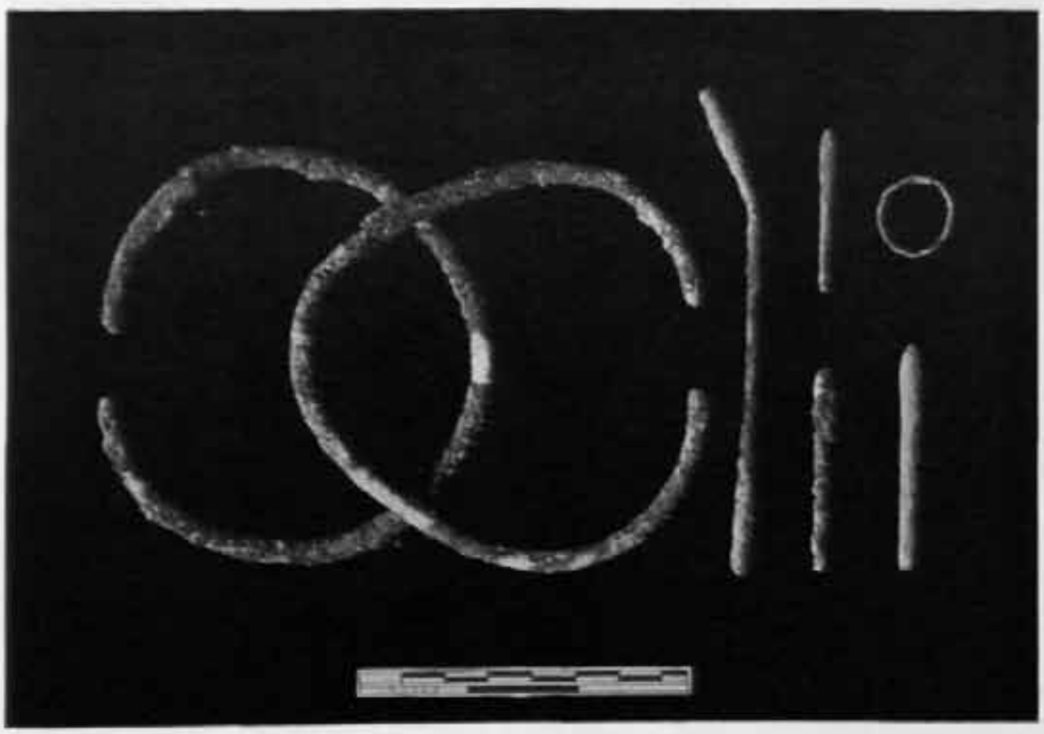


B

Nagari: A, *microlithic cores and flakes;* B, *beads*

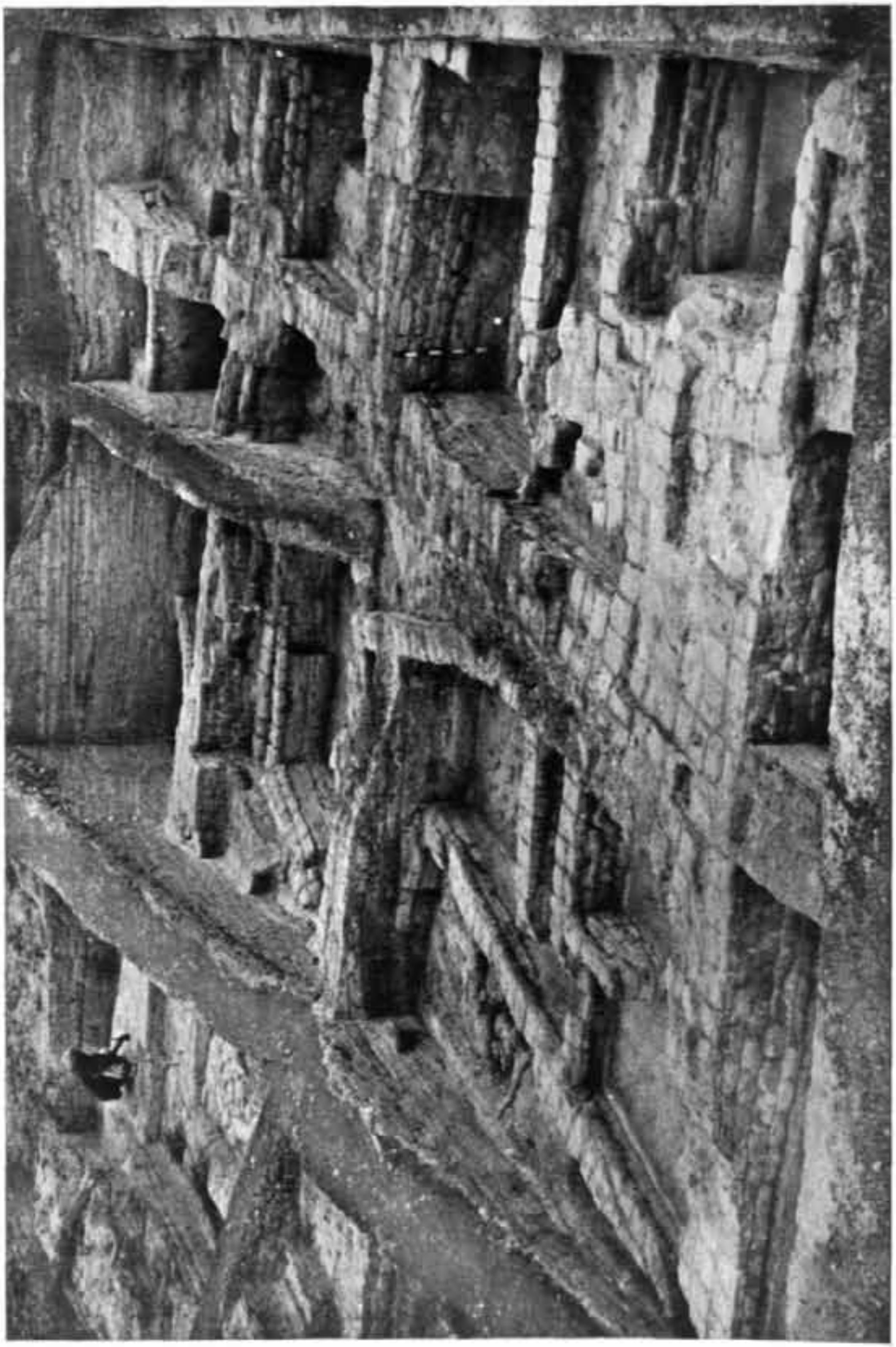


A

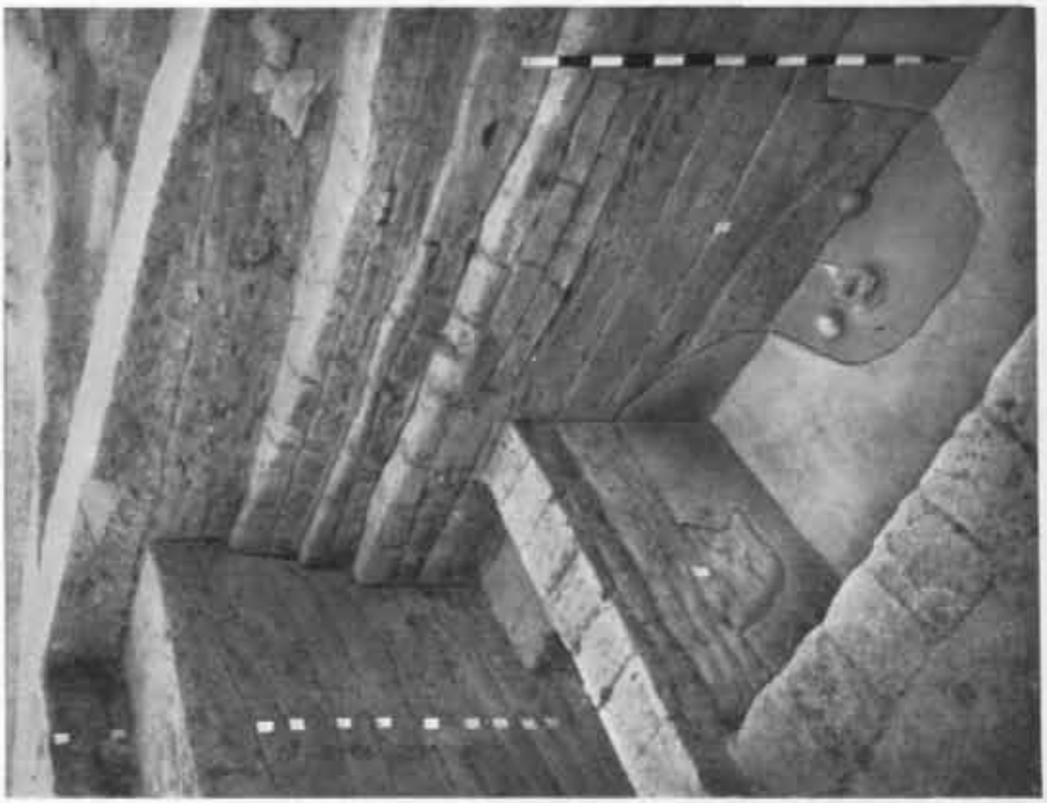


B

Nagari; A, *terracotta objects;* B, *copper objects*



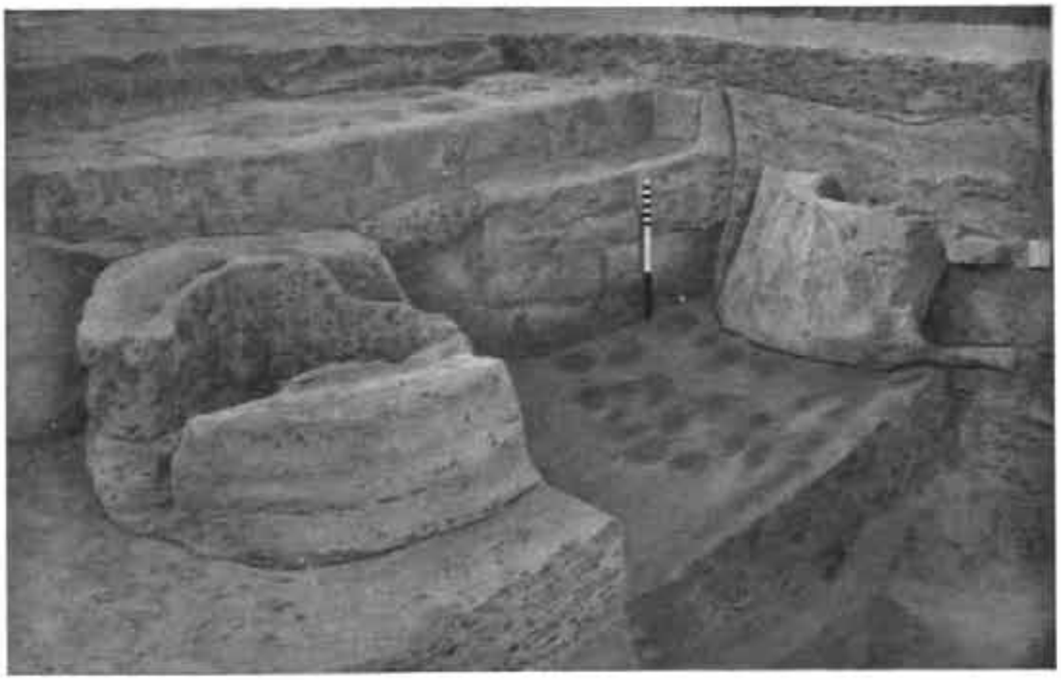
Kalibangan (KLB-1) : *pre-Harappan structures*





A B

Kalibangan (**KLB-1**): **A**, *faulted strata*, *and* **B**, *successive levels of pre-Harappan structures*

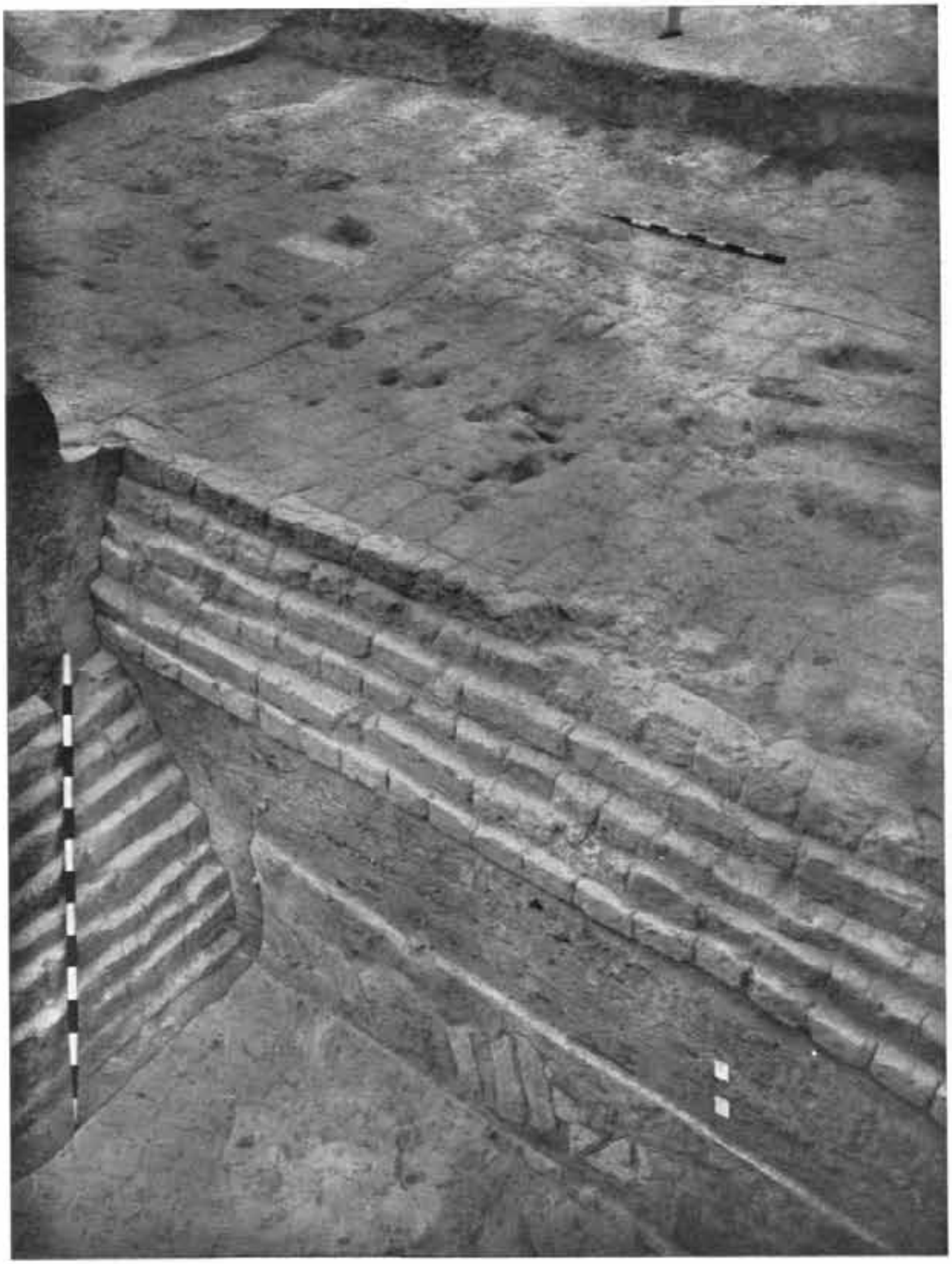


A



B

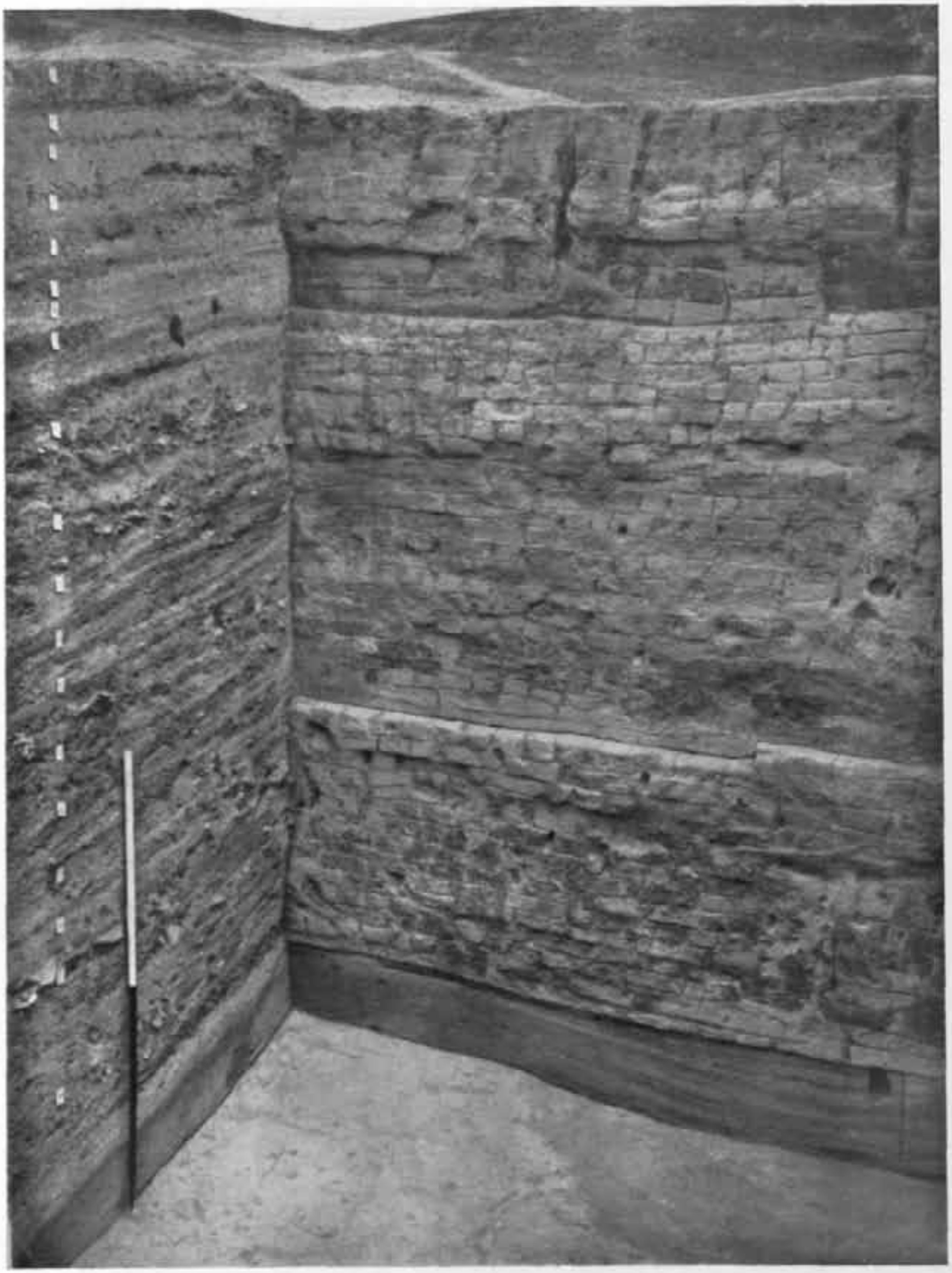
Kalibangan (KLB-1): ovens, A, *above ground, and* B, *underground*



Kalibangan (KLB-1): *successive phases of massive wall*



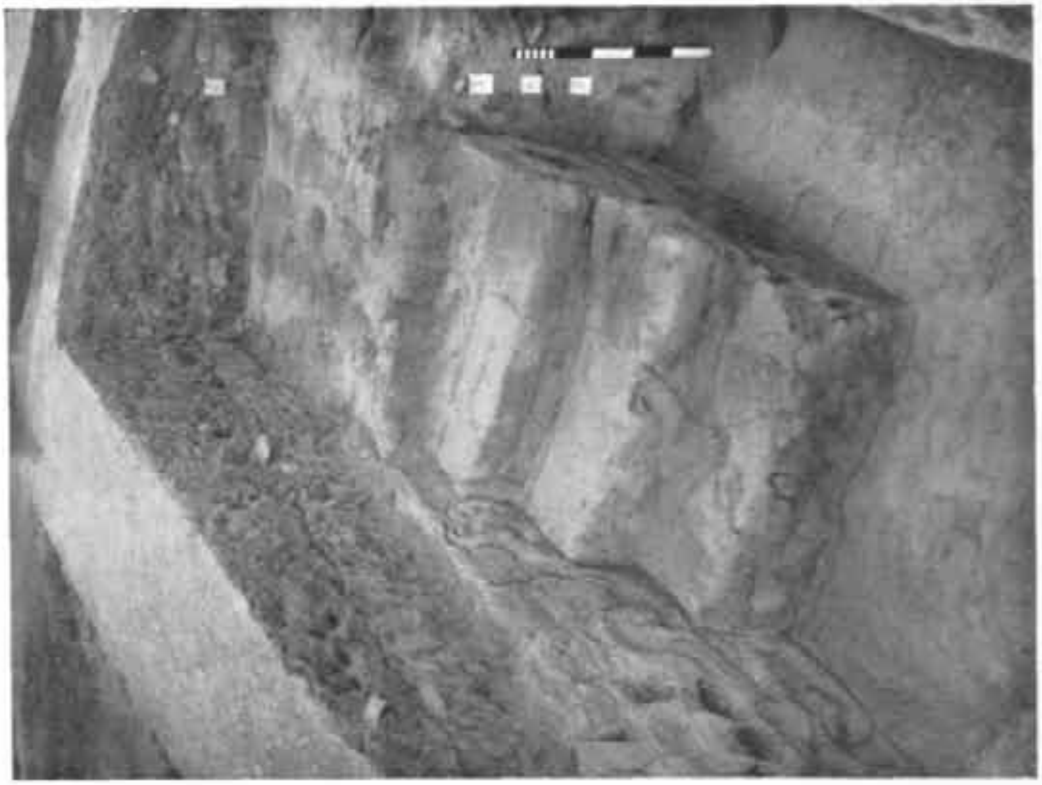
Kalibangan (KLB-2): *main street*



Kalibangan (KLB-2): *section across main street*



A



B

Kalibangan: A, *successive drains discharging into street;* B, *stairway inside house*

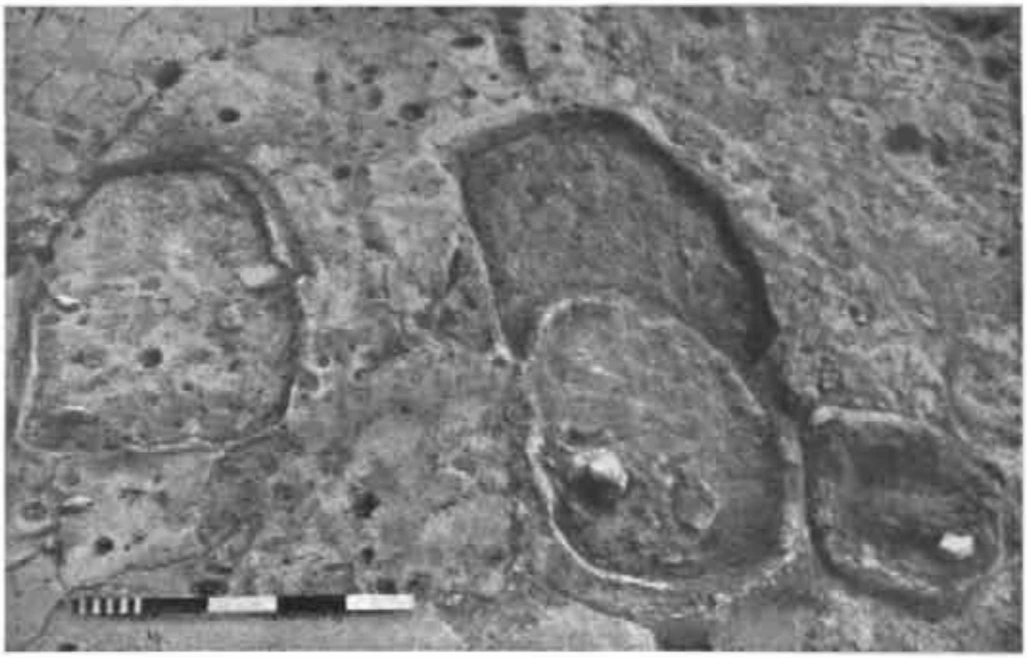


A

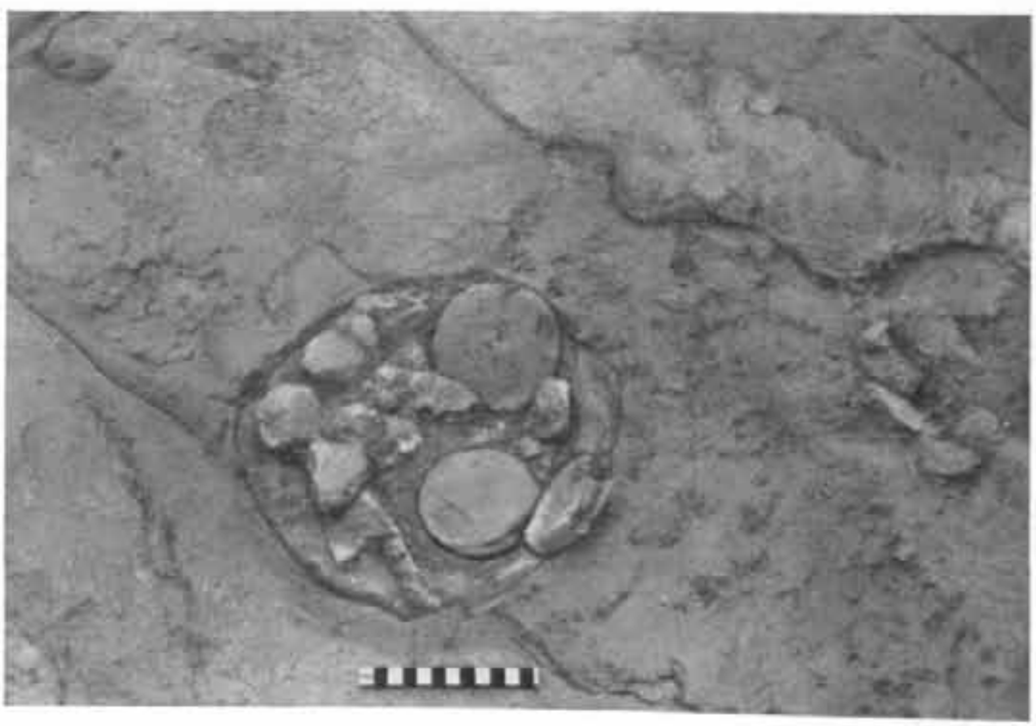


B

Kalibangan: A., *trough outside houses;* B. *well inside courtyard*



A



B

Kalibangan: A, *fire-places;* B, *terracotta cakes inside fire-pit*



A

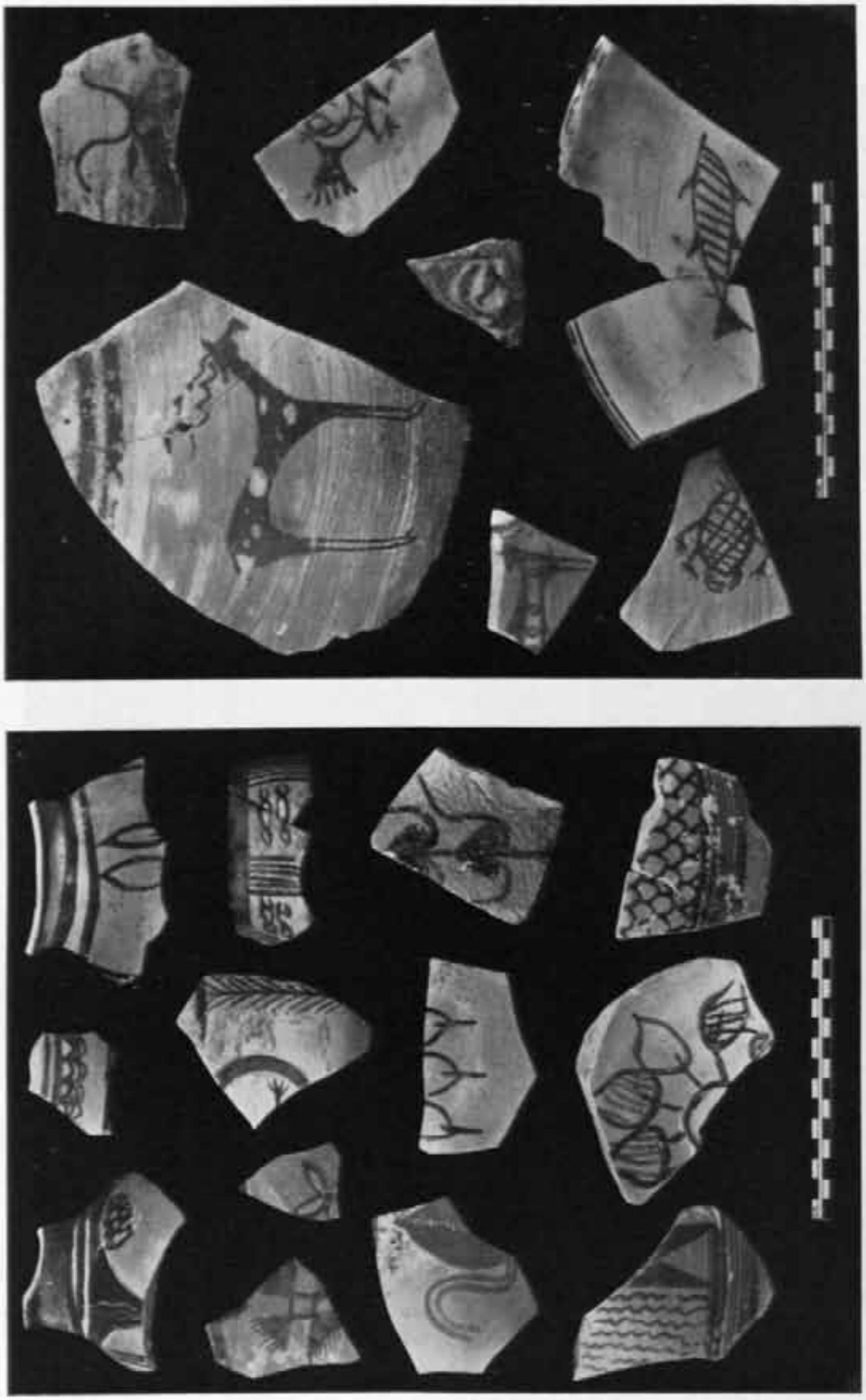


B

Kalibangan: sections across fire-places showing, A, *cylindrical, and* B, *rectangular blocks*

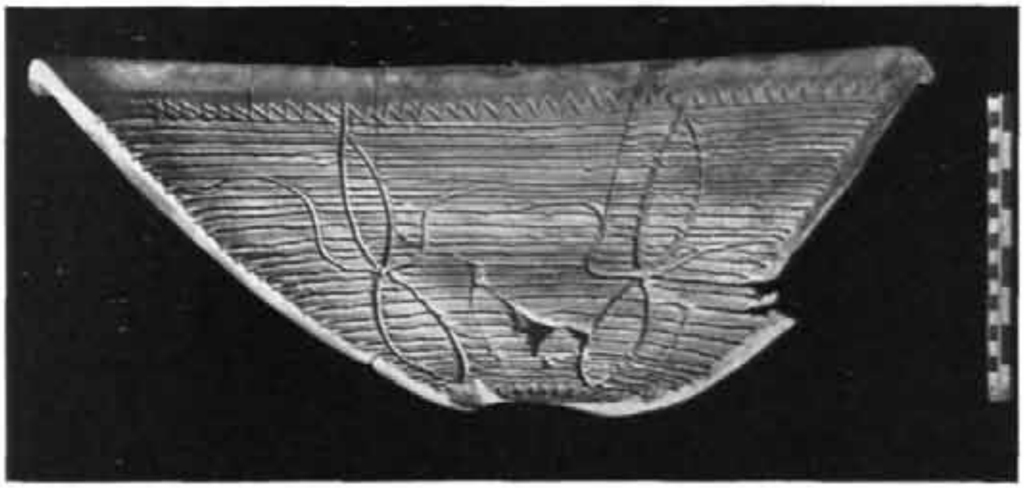


Kalibangan: fire-places in a row disturbed by a later drain



A B

Kalibangan: pre-Harappan painted pottery



A

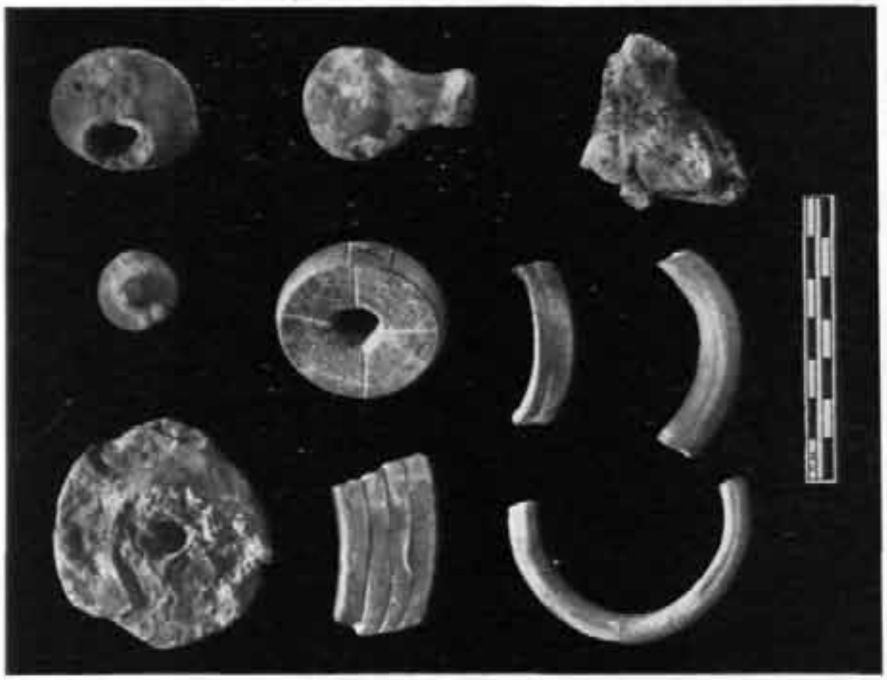


B

Kalibangan: A, *pre-Harappan pottery, Fabric D, with incised decorations, and* B, *pre-Harappan quern and muller*



A

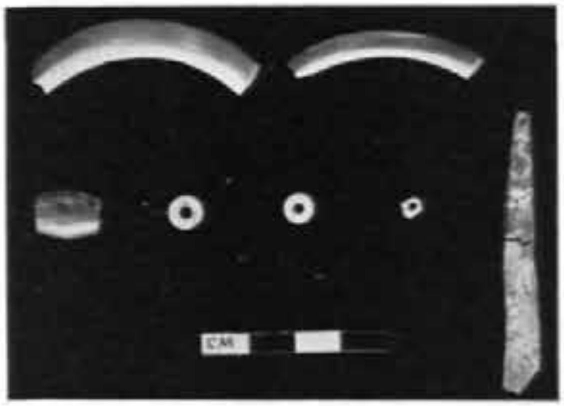


B

Kalibangan: A, *pre-Harappan copper objects, and* B, *pre-Harappan terracotta objects*



A

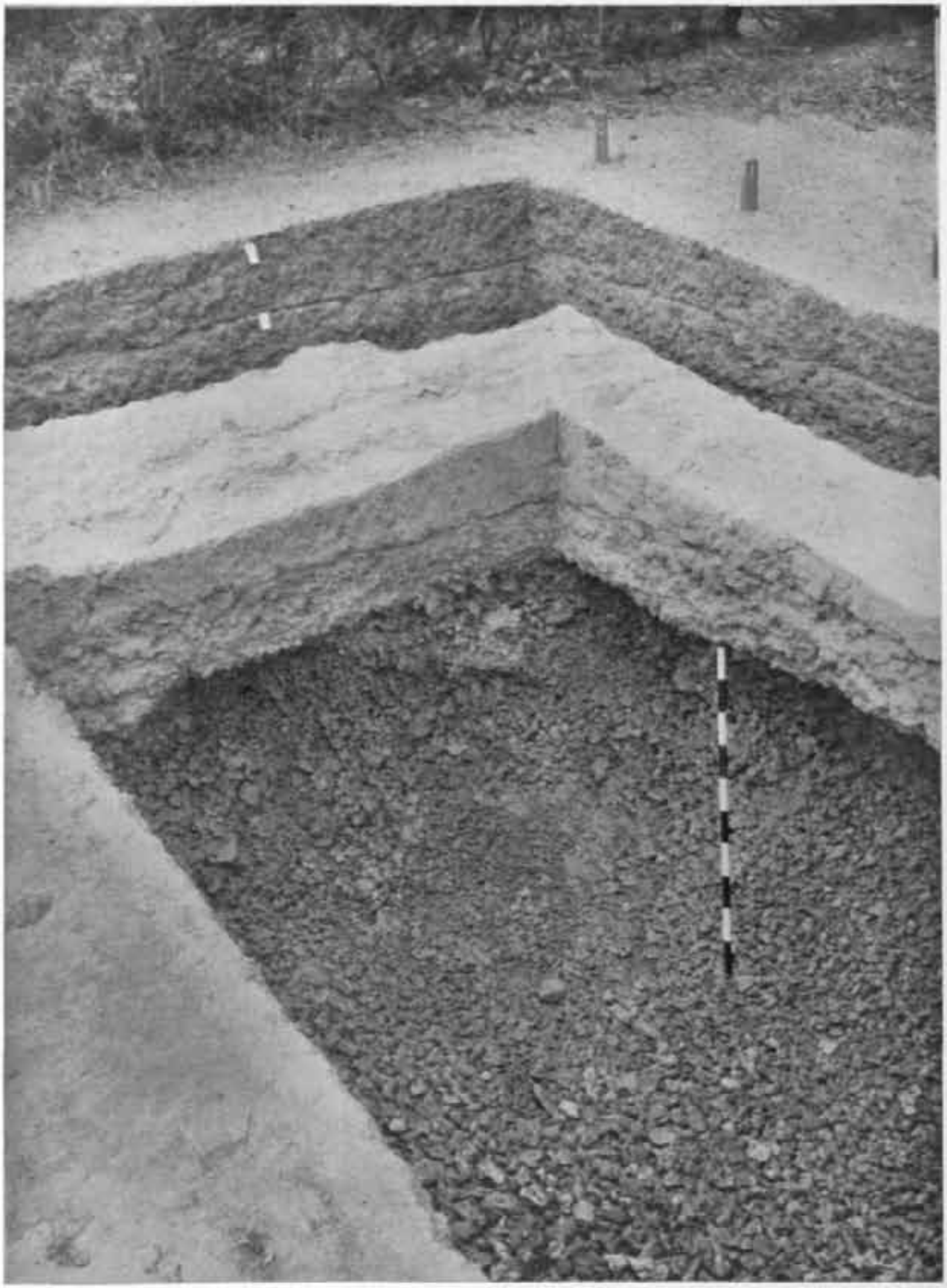


B



C

Kalibangan: A, *pre-Harappan small stone blades, and* B, *miscellaneous objects;* C, *Harappan seals*



Bairat: iron slag deposit of the medieval age



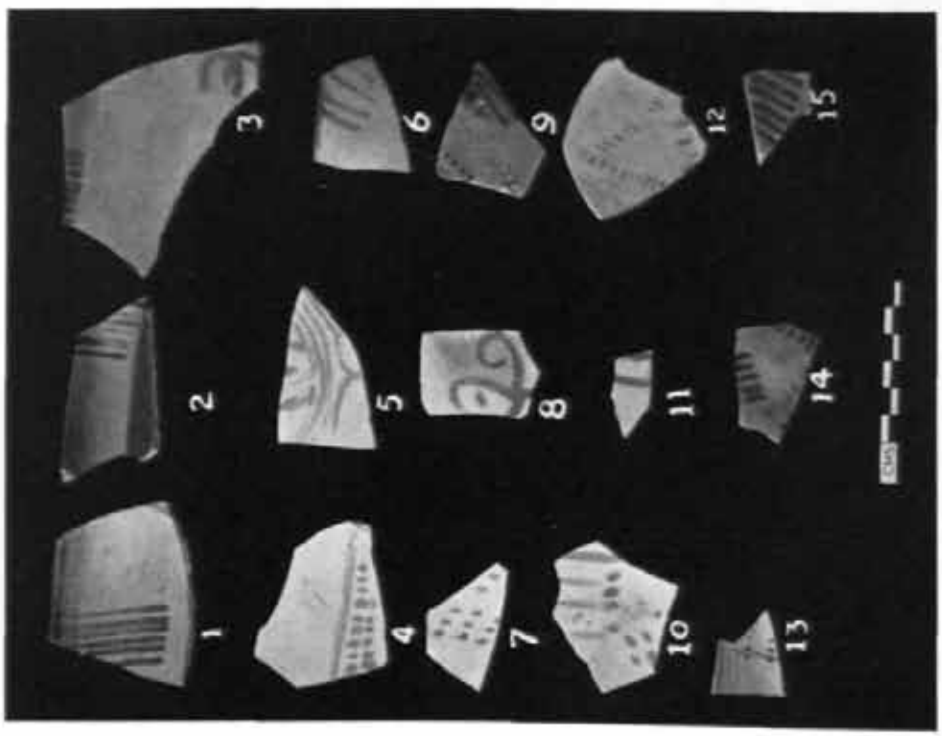
Bairat: section showing iron slag of the medieval age



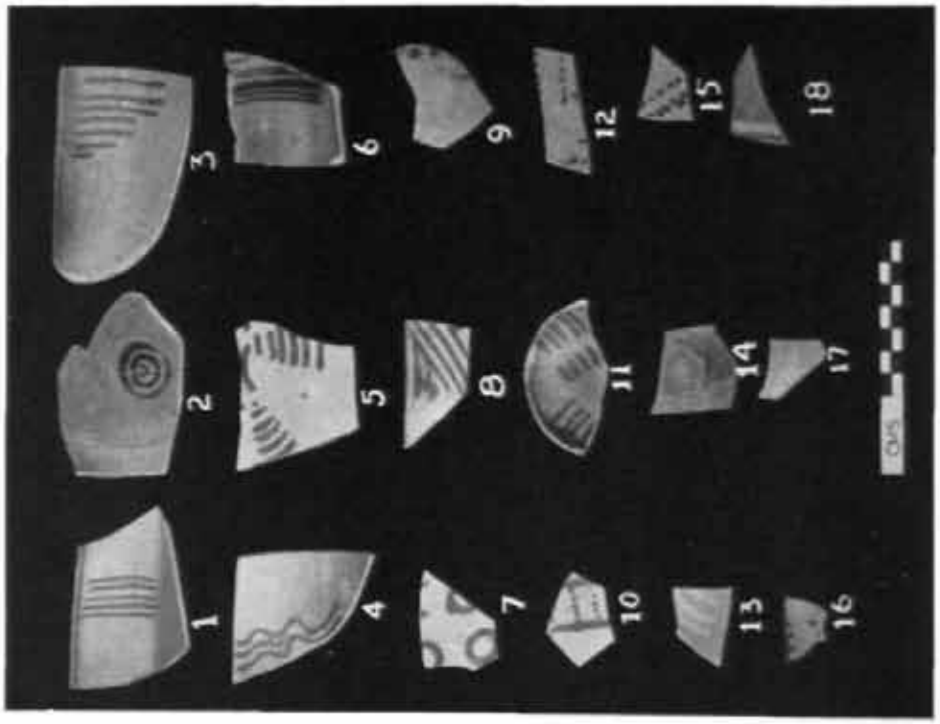


A B

Atranjikhera: A, *brick floor, Period III;* B, *house-complex, Period IV*



A

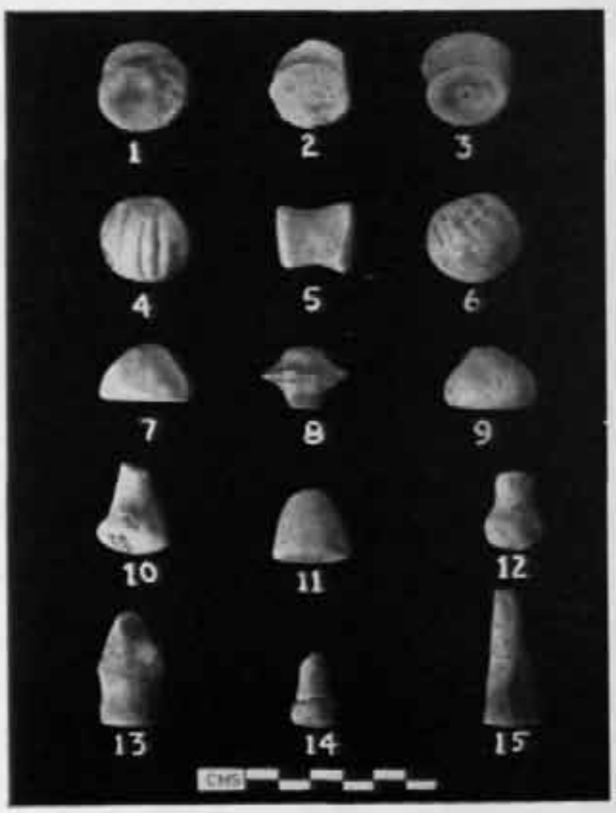


B

Atranjikhera: Painted Grey Ware, Period II



A

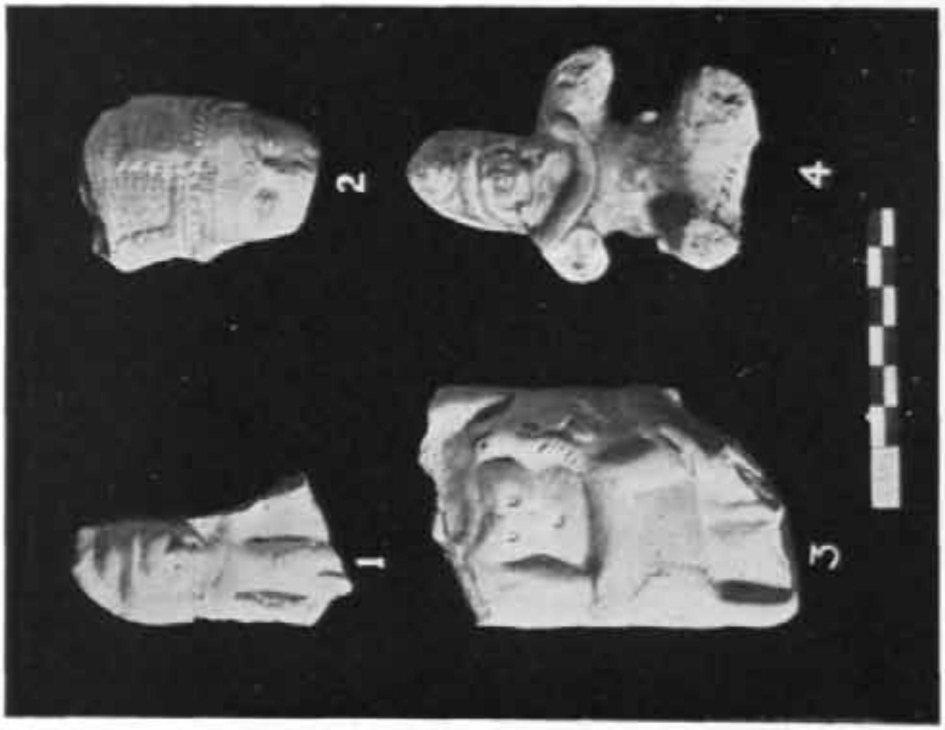


B

Atranjikhera: A, *terracotta toy-cart, Period III;* B, *miscellaneous objects, Periods III-IV*



A



B

Atranjikhera: terracotta human figurines, Periods III-VI

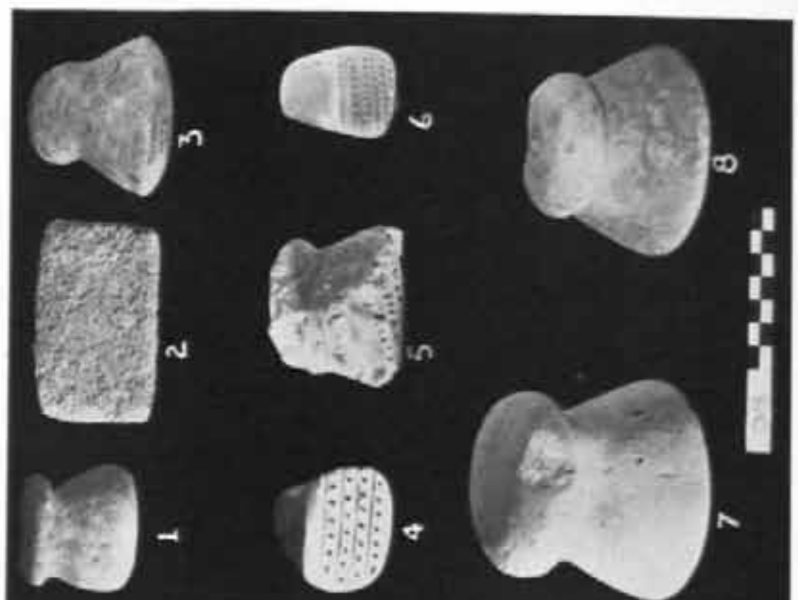


B



A

Atranjikhera: terracotta animal figurines, Periods III-V



A



B

Atranjikhera: A, *miscellaneous objects, Periods III-VI;* B, *glazed ware, Period VI*

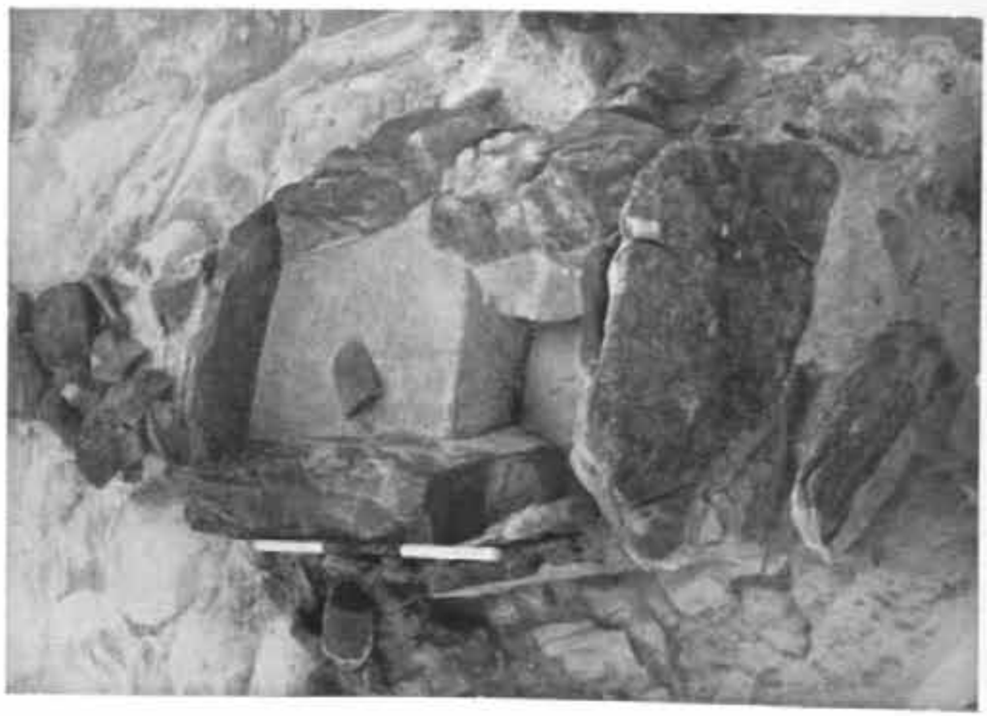


A

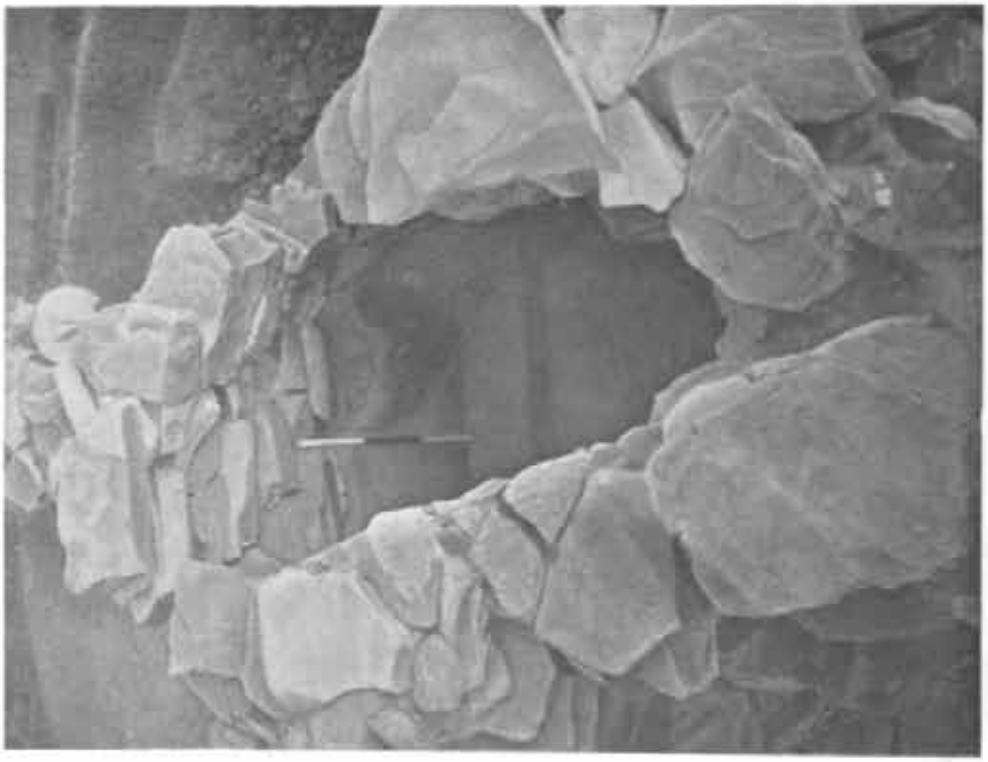


B

Banimilia-Bahera: A, *general view of cairn-circle;* B, *section through Megalith I*



A



B

Banimilia-Bahera: A, *cist of Megalith V;* B, *semi-circular stone chamber, Megalith I*

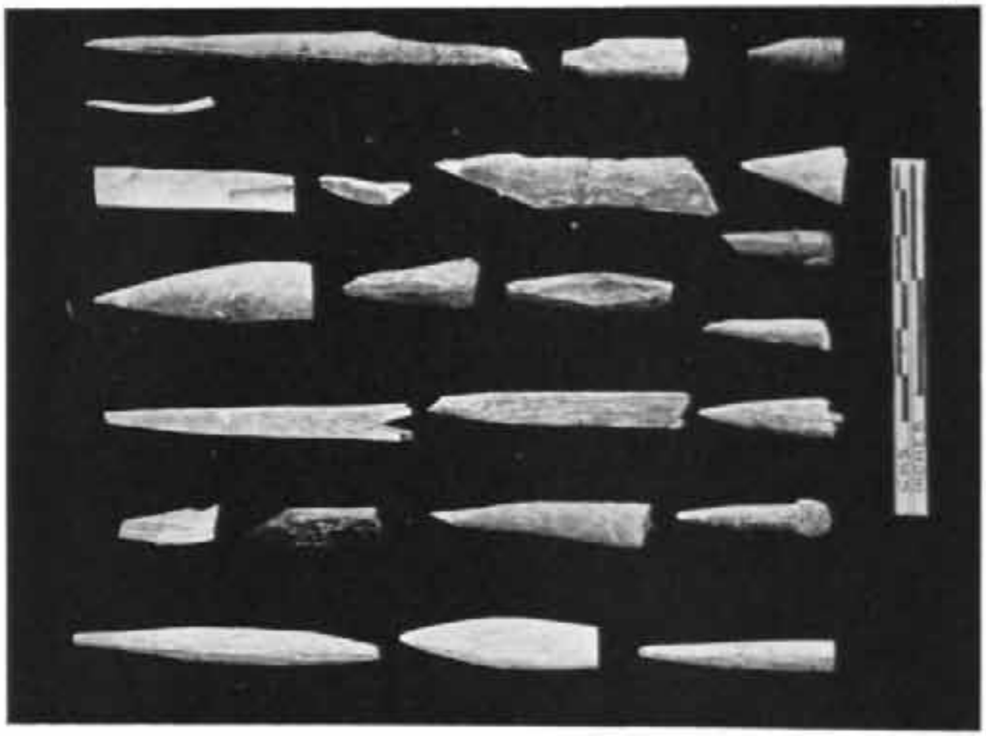


A

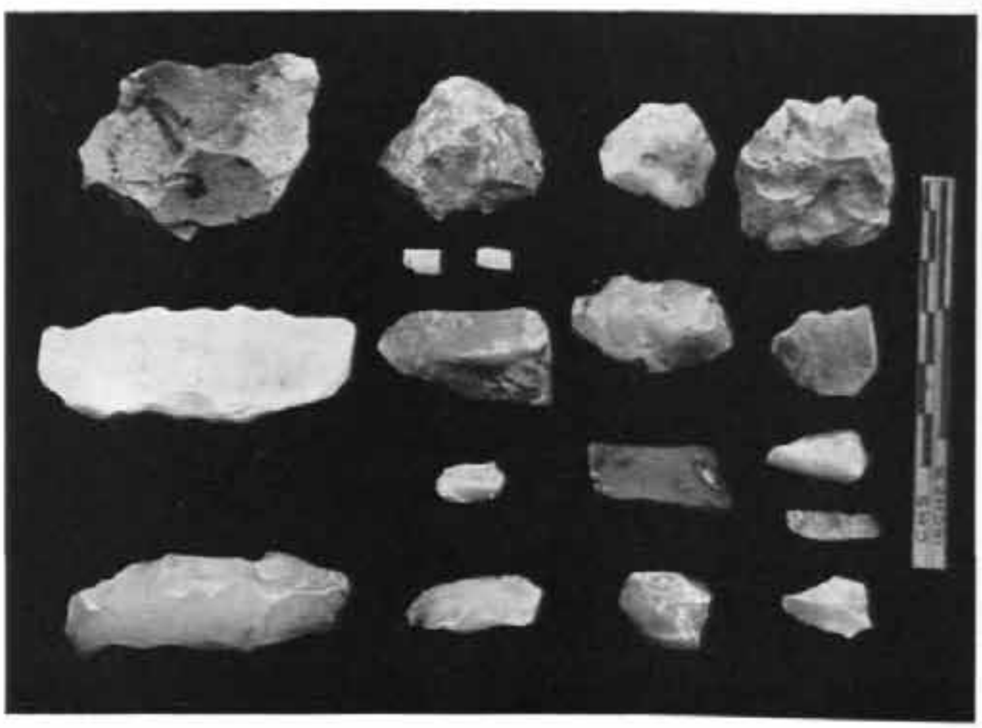


B

Prahaladpur: A, *fortification on right bank of a nullah;* B, *brick-lined well*



B



A

Prahaladpur: A, *microliths and* B, *bone points from earliest phase*

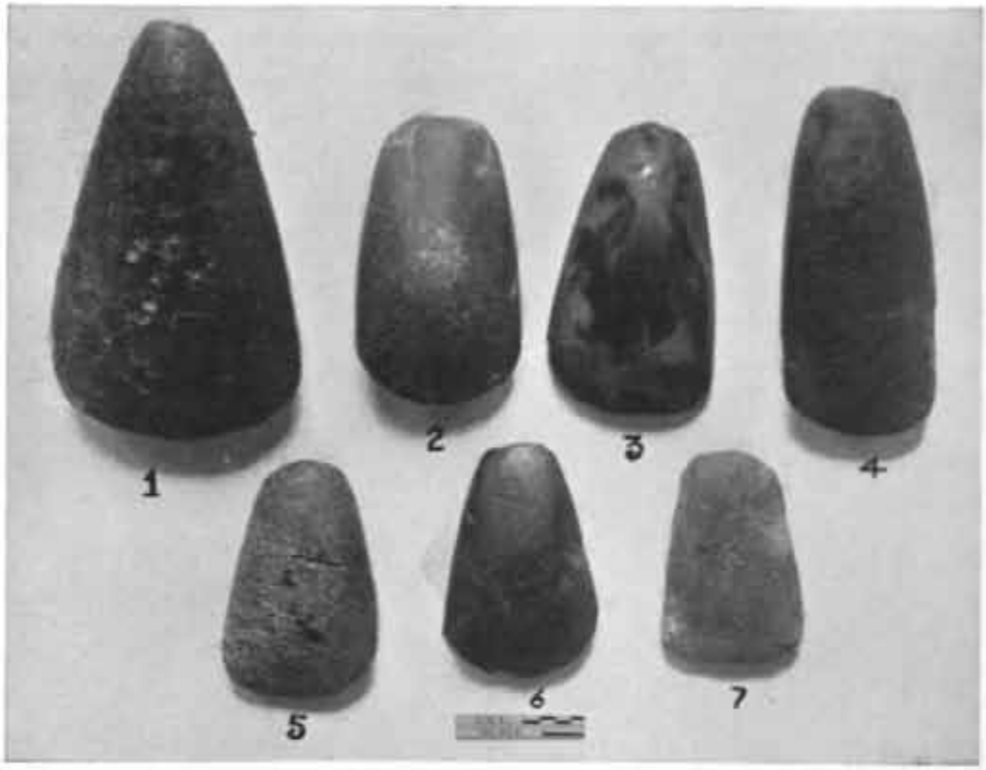


A

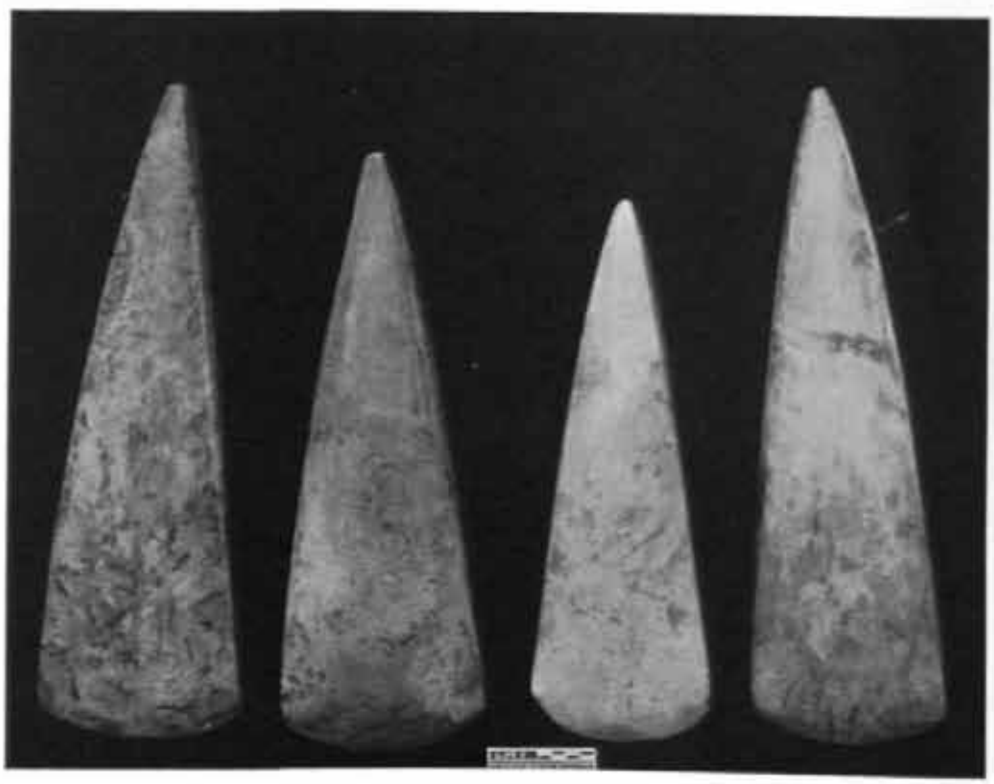


B

Rajghat: A, *brick floor, and* B, *terracotta human figurines, Period III*



A



B

A, *Dungra-Busti and Sindibong, and* B, *Bagridihi, stone celts*

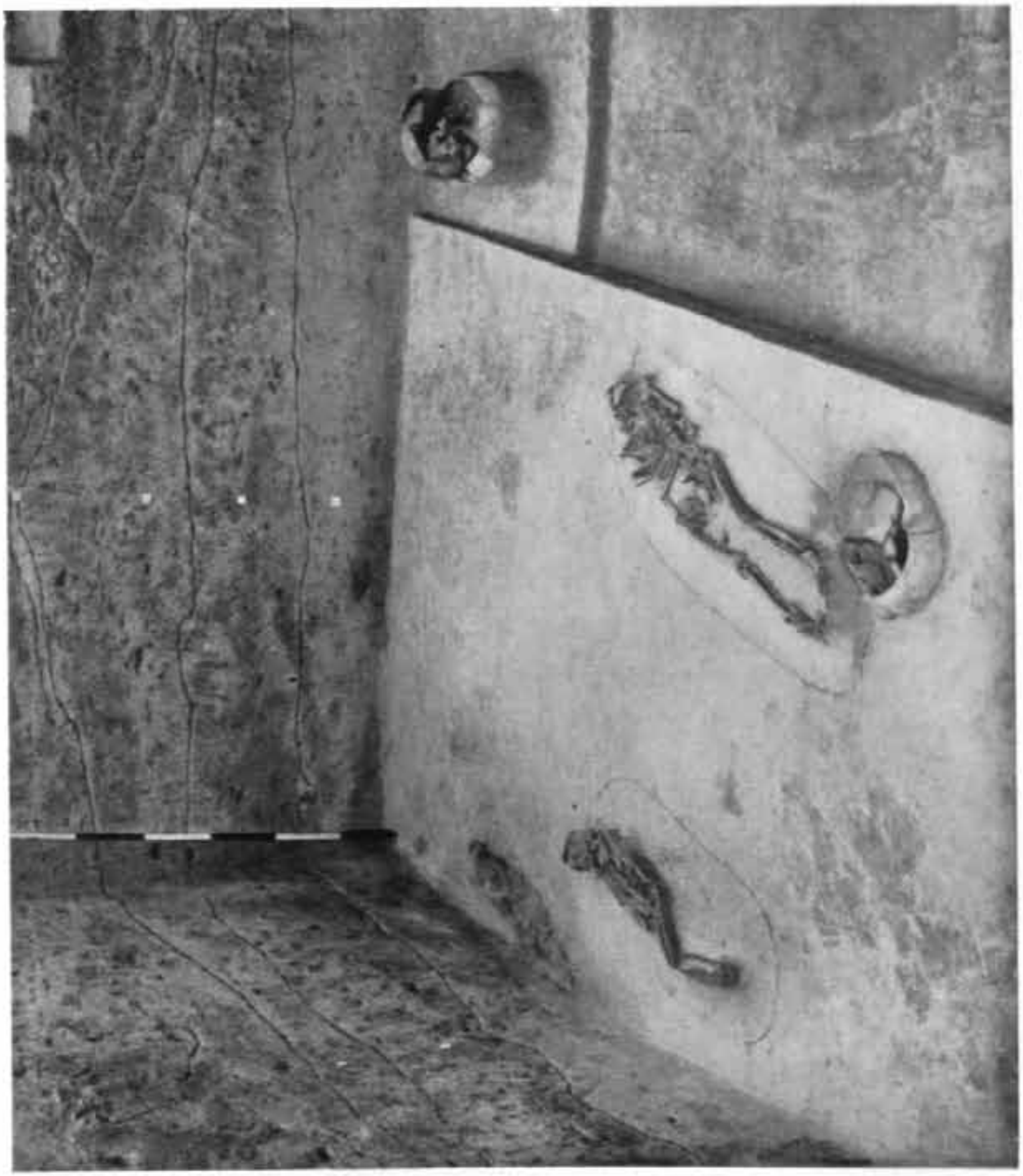


A



B

Pandu-rajar-dhibi: A, *general view of excavation;* B, *fractional burial, Period I*



Pandu-rajar-dhibi: group of burials



A



B

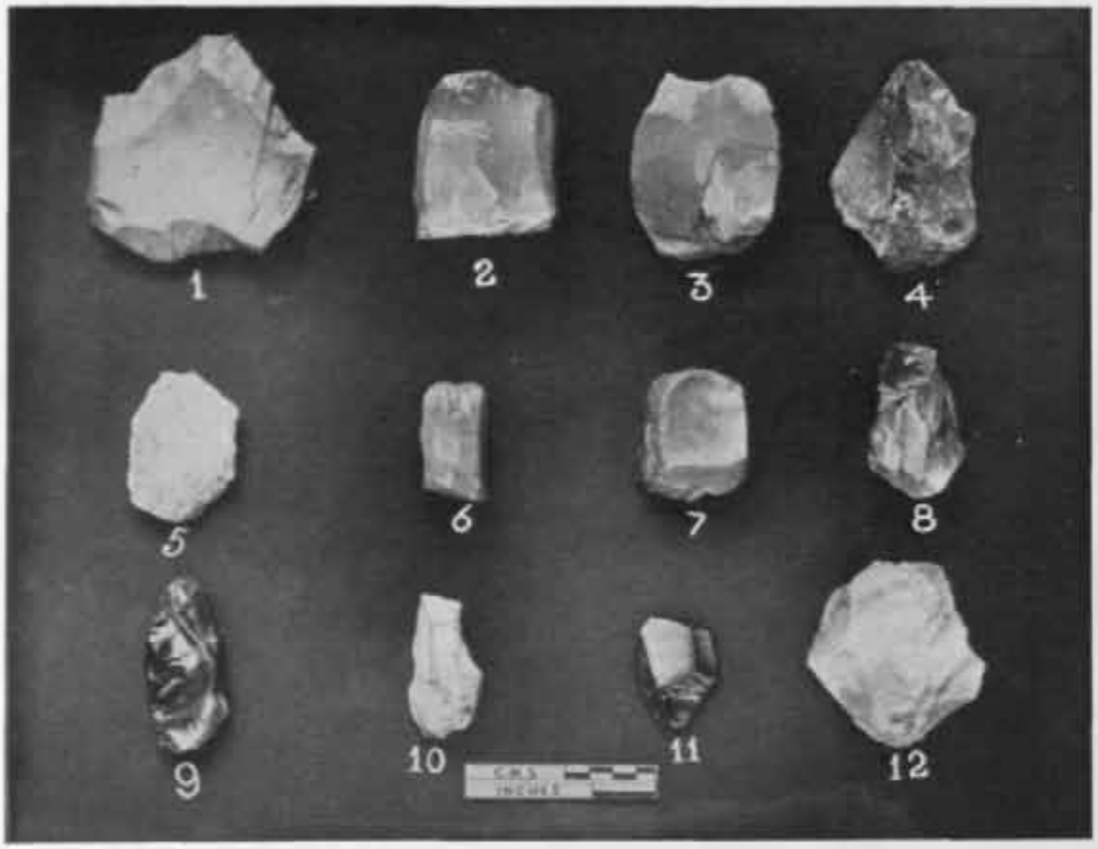
Pandu-rajar-dhibi: urn-burial, Period II





A B

Pandu-rajar-dhibi: A, plan and section of pit, Period III; B, *mud-oven, Period IV*

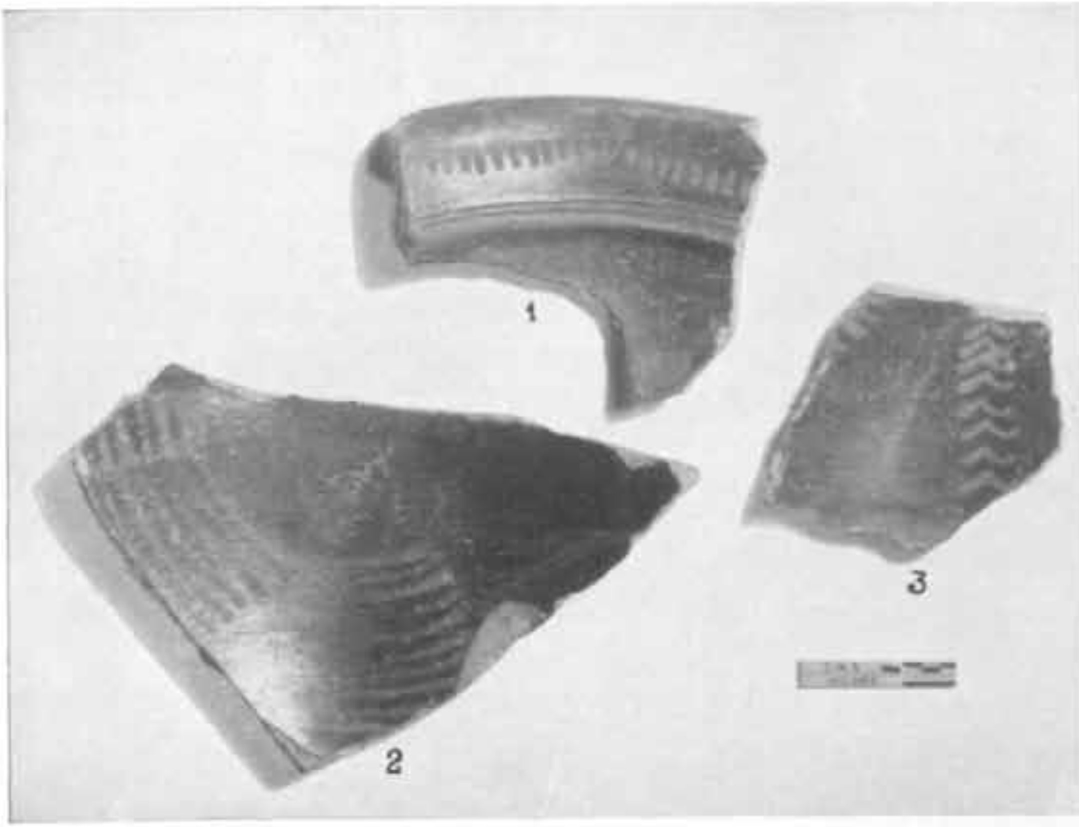


A

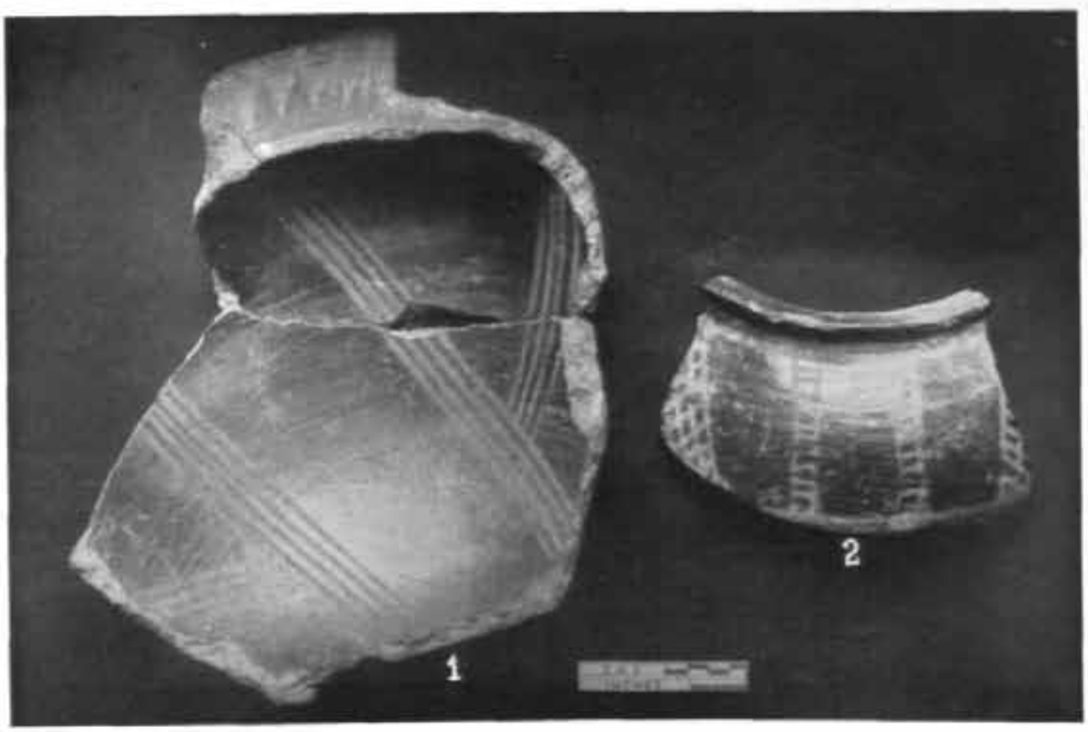


B

Pandu-rajar-dhibi: A, *microliths, Periods II-III;* B, *channel-spouted bowl of black-and-red ware*

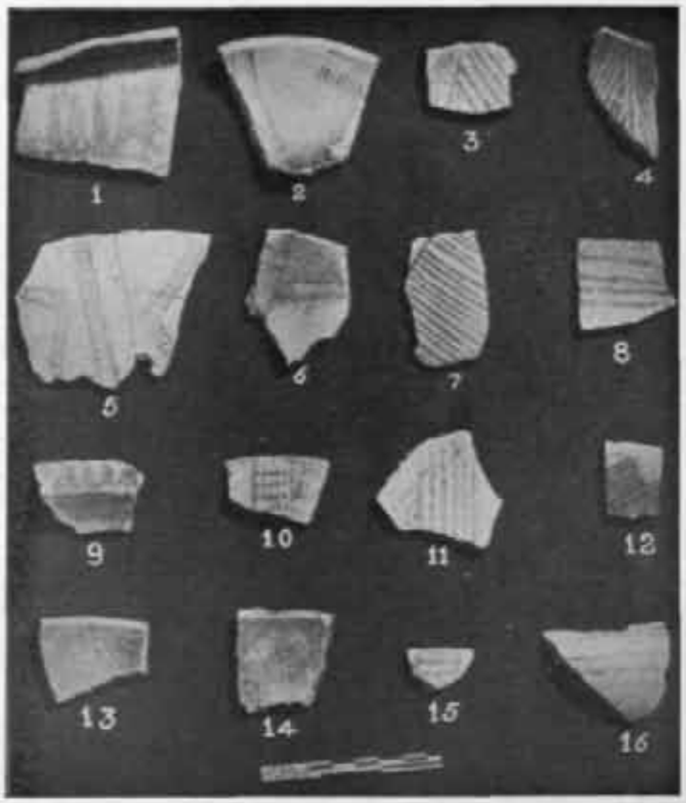


A

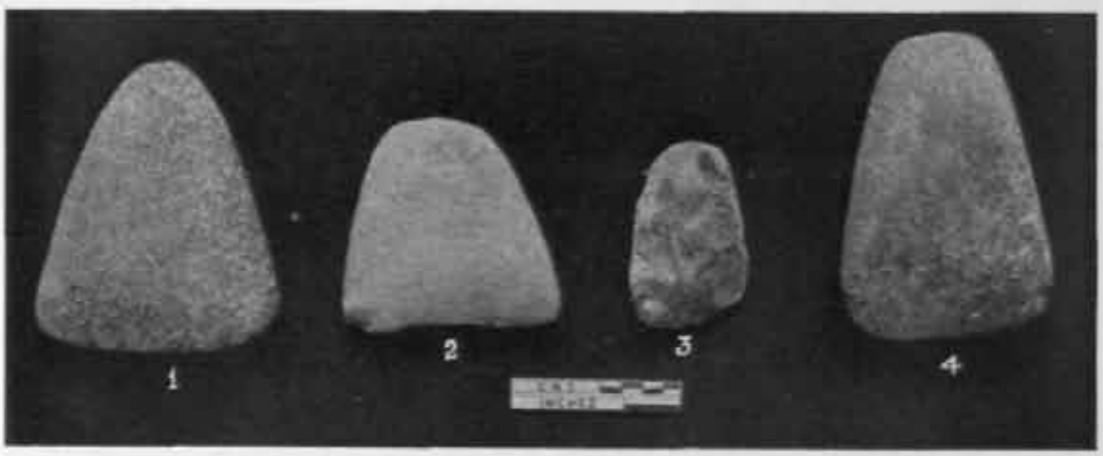


B

Pandu-rajar-dhibi: painted pottery

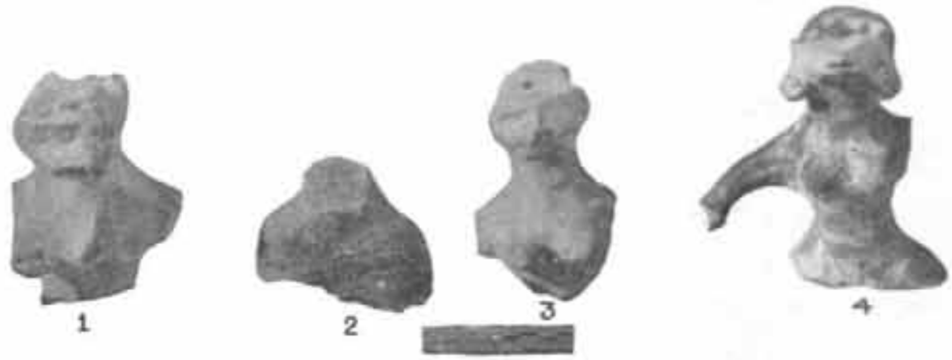


A

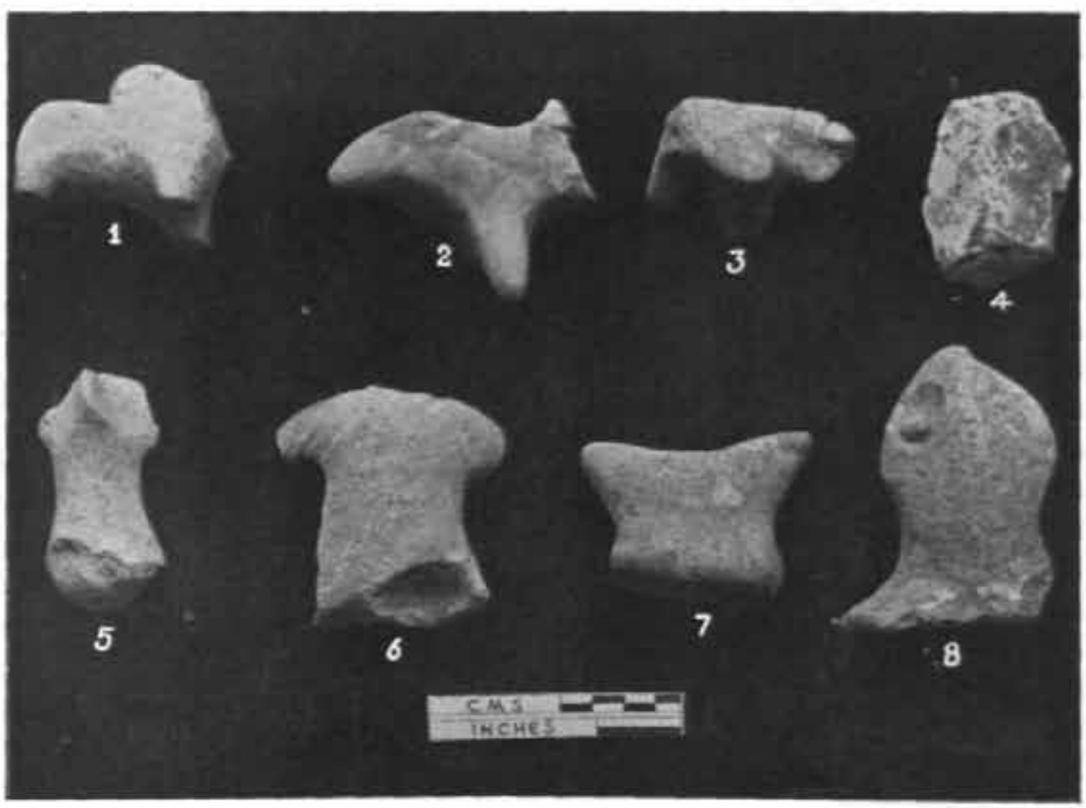


B

Pandu-rajar-dhibi: A, *painted pottery;* B, *polished stone axes*

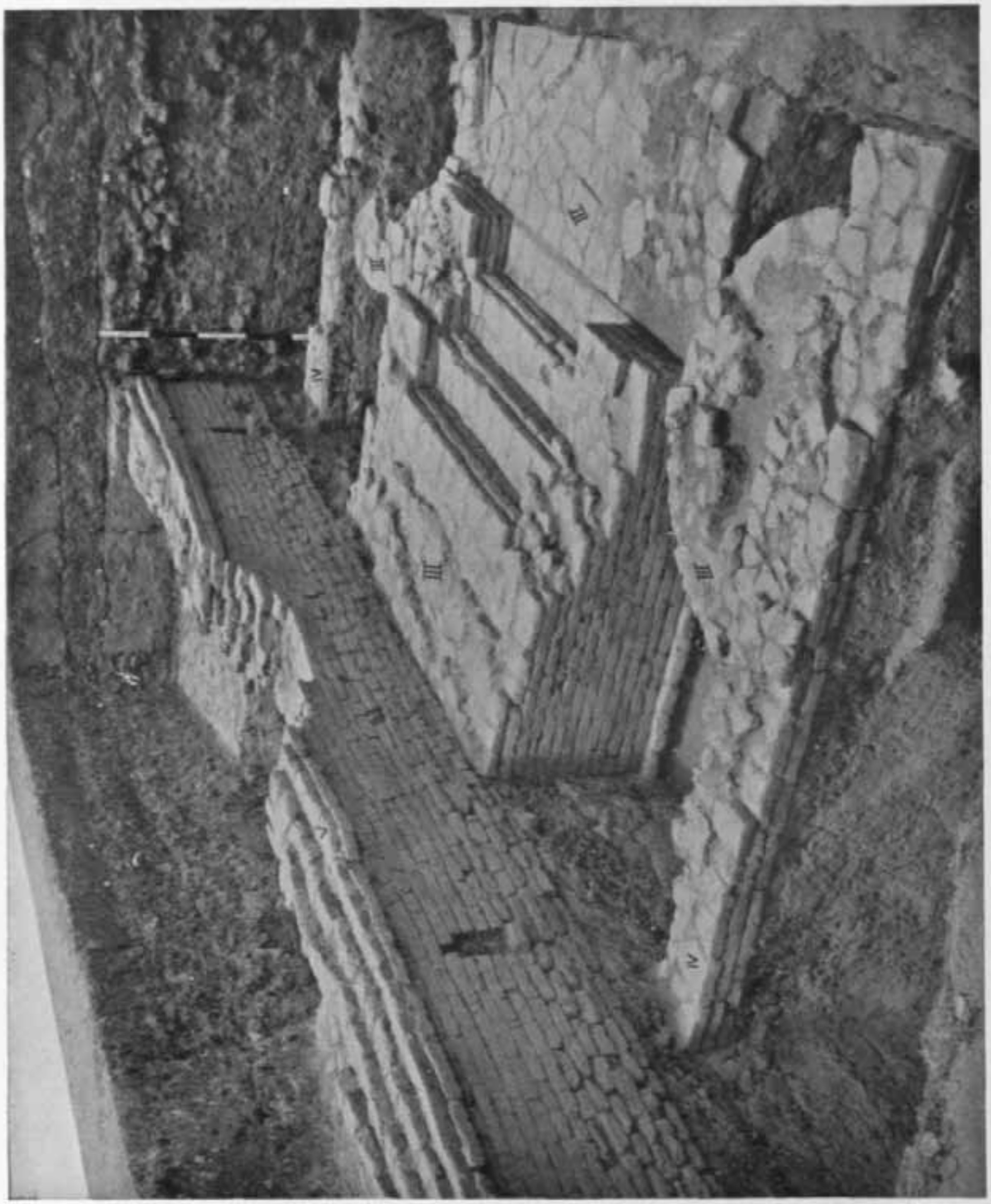


A



B

Pandu-rajar-dhibi: A, *terracotta human figurines, Period III;* B, *terracotta figurines, Period IV*



Rajbadi-danga: monastic structures

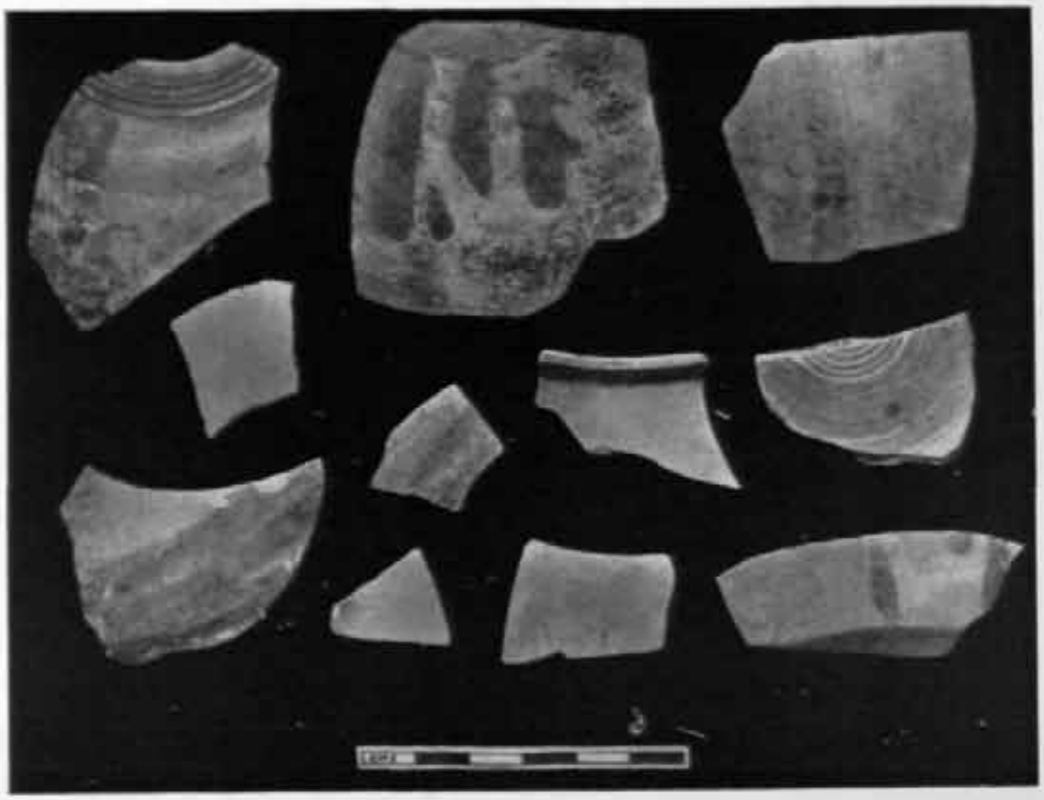


A

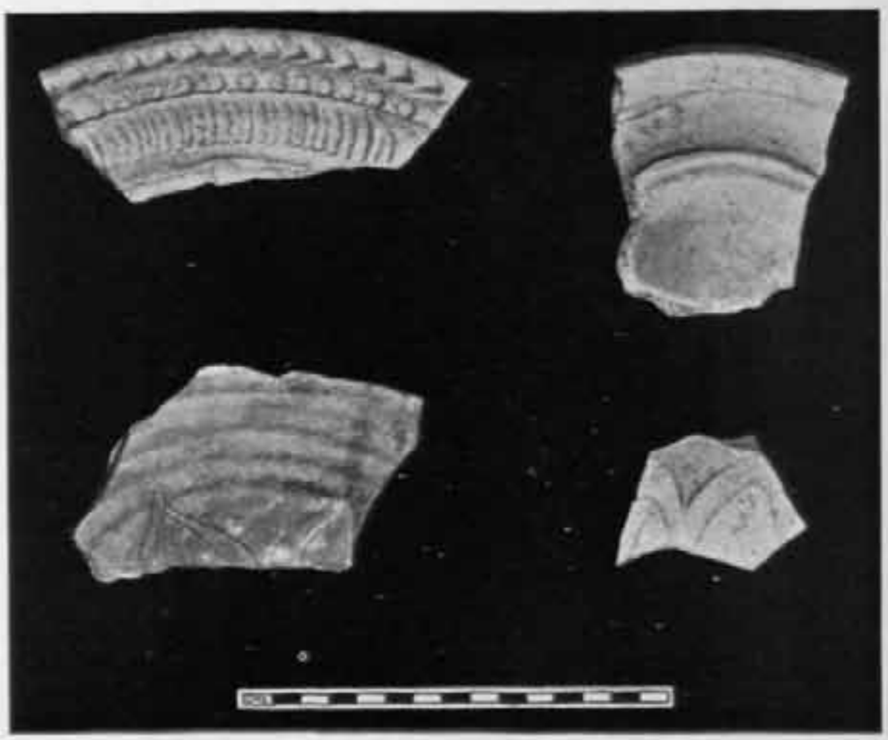


B

Rajbadi-danga: A, *circular basement;* B, *lime-plastered steps*



A



B

Rajbadi-danga: pottery

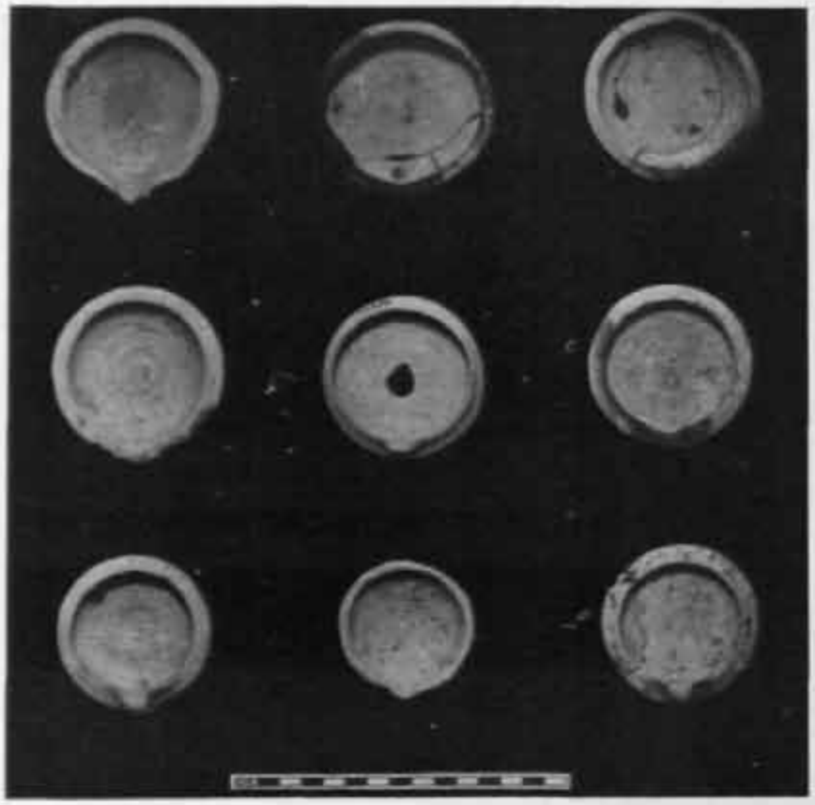


A

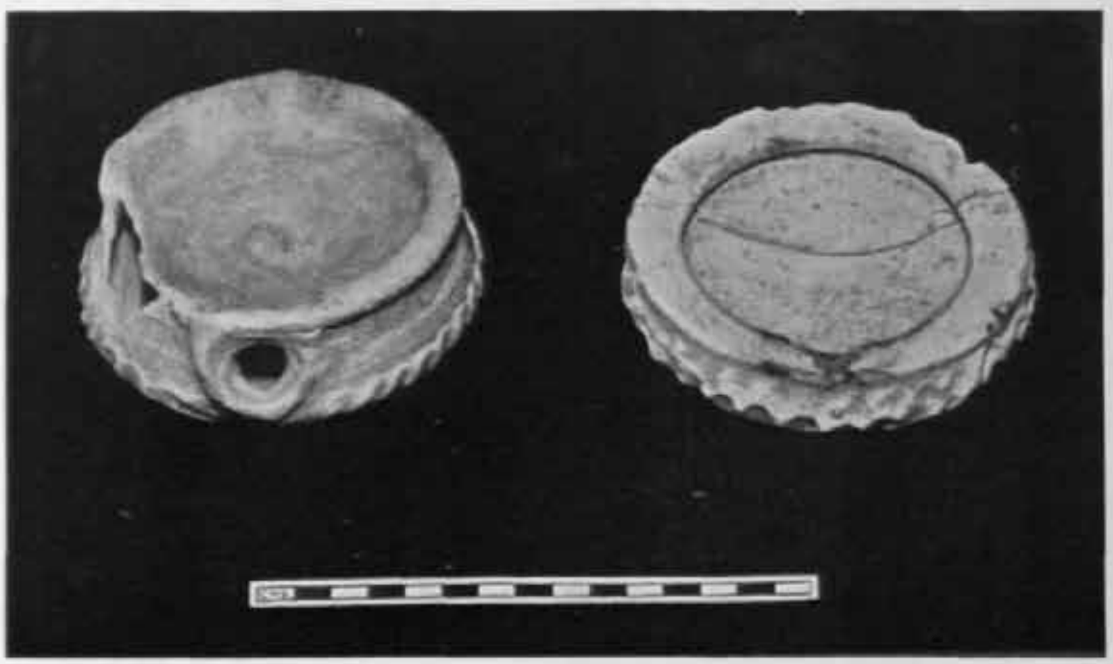


B

Rajbadi-danga: A, *sprinklers;* B, *stucco mouldings*



A



B

Rajbadi-danga: terracotta lamps



A



B

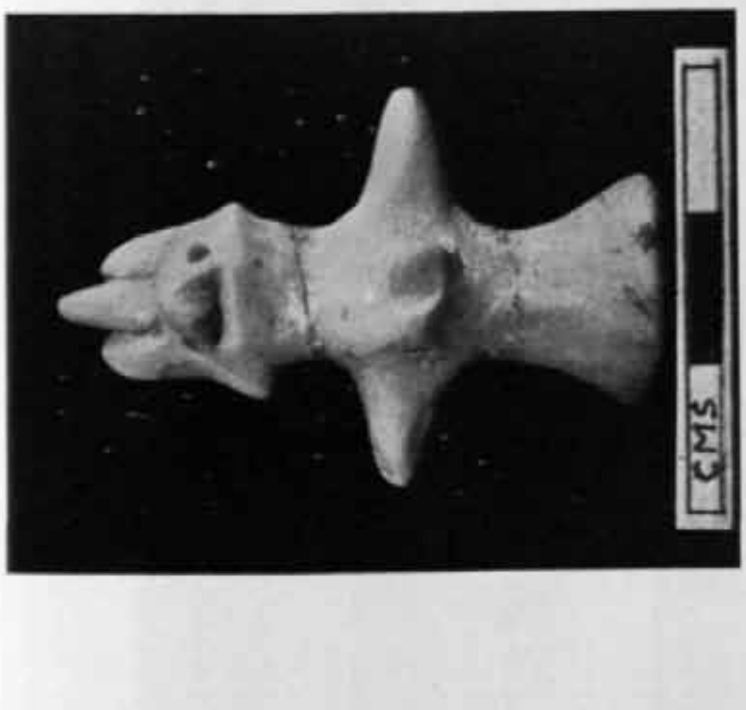


C



D

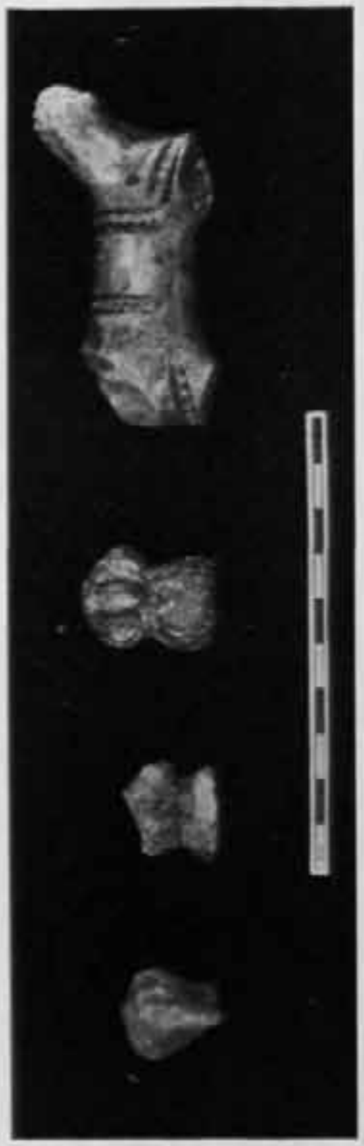
Rajbadi-danga: A *and* B, *stucco heads;* C, *copper chakra;* D, *inscribed terracotta sealing*



A



B



C

Rajbadi-danga: votive terracotta figurines



A

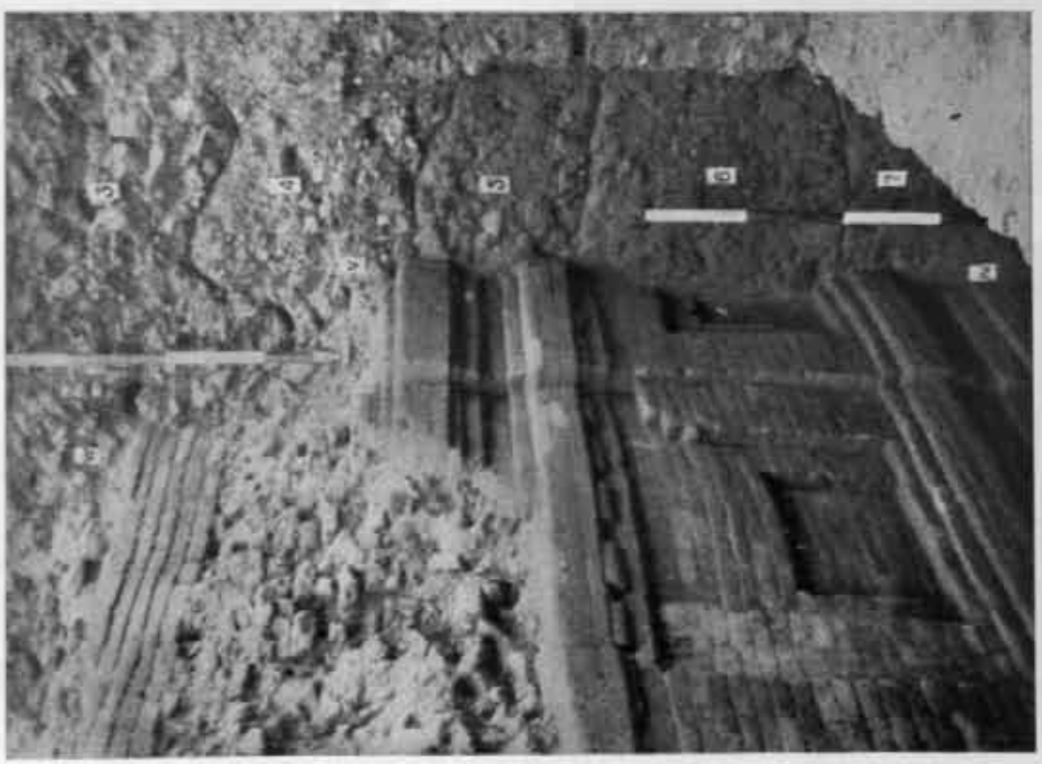


B

Chandraketugarh: brick structures on wooden poles, Period III



B



A

Chandraketugarh: A, *moulded brickwork and* B, *moulded circular basement, Period IV*



A



B



C



D

Chandraketugarh: terracotta human figurines, Periods II and III



A



B



C



D



E

Chandraketugarh: terracotta objects, Period IV



A



B

A, *Junnar: Brahmi inscription;* B, *Kot: Inscription of Radiyya*



A



B

A, *Nagaram: medieval sculpture of Virabhadra;* B, *Chebrolu: Ikshvaku limestone sculpture*



B

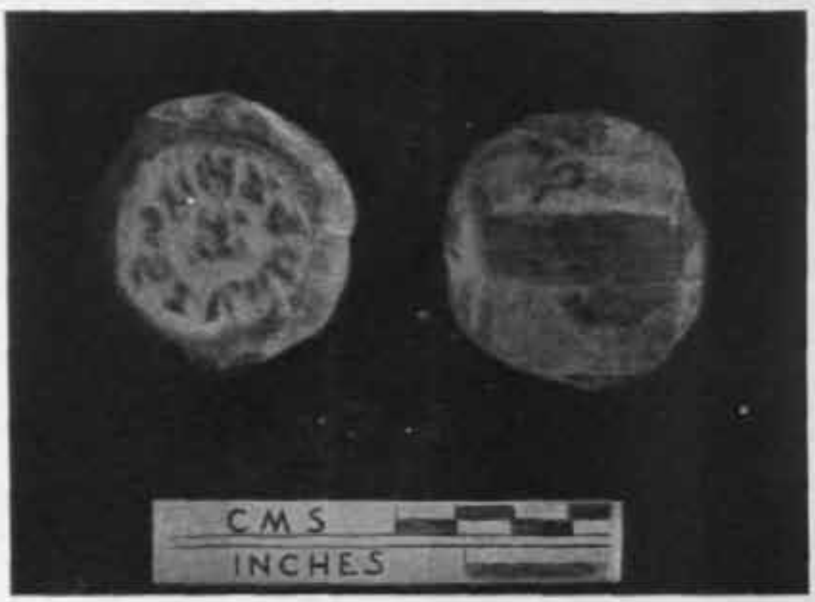


A

Chebrolu: terracotta figurines

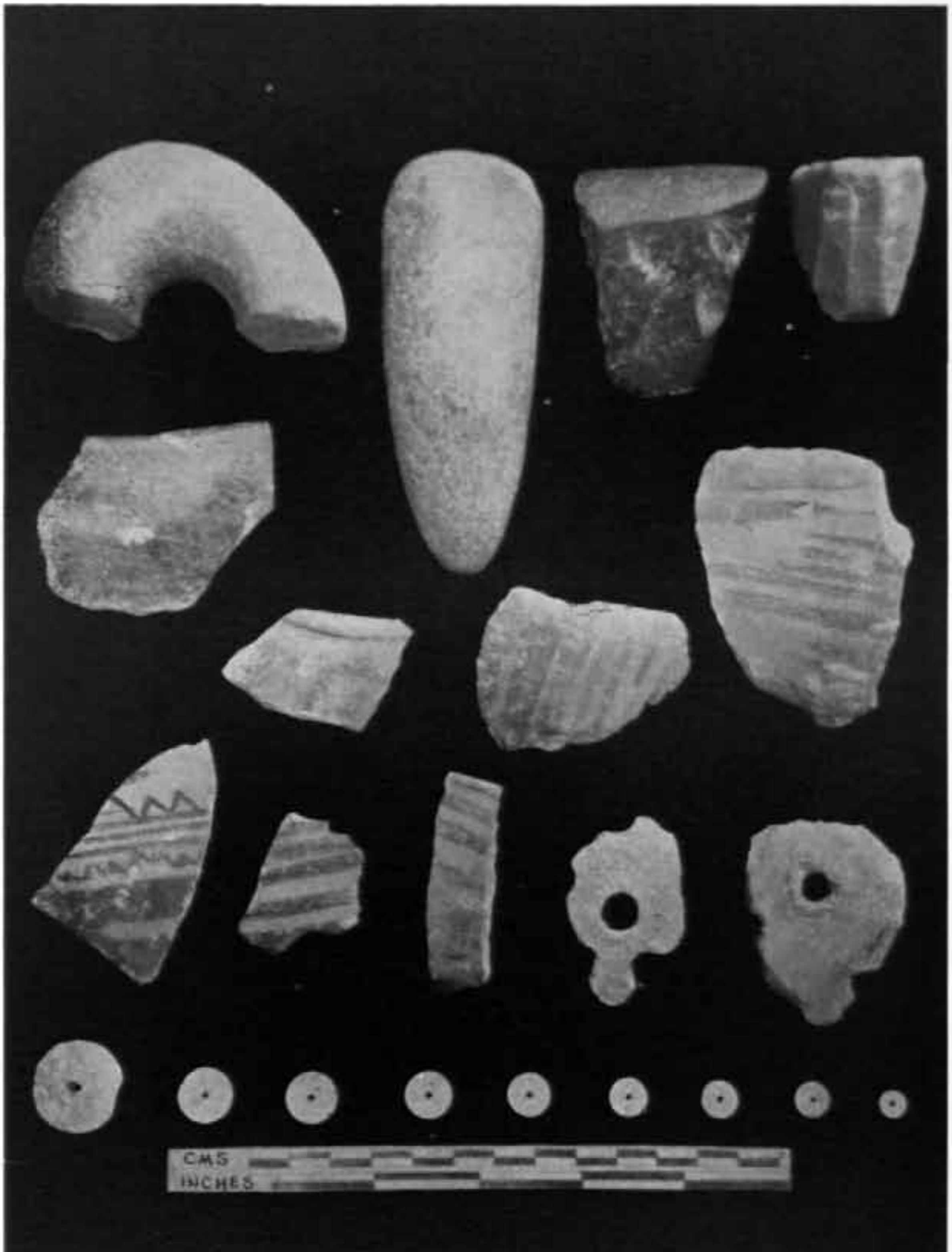


A

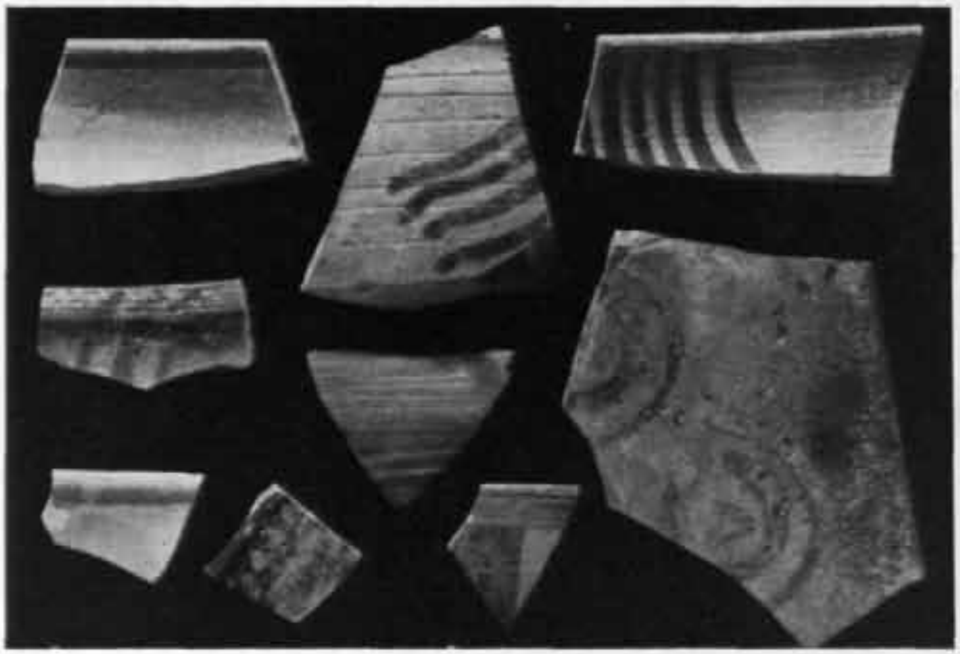


B

Chebrolu: A, *limestone sculpture;* B, *inscribed terracotta sealing*



Pusalpadu: miscellaneous stone objects and pottery



A



B

A, *Jhinjhana* (½) and B, *Kairana: Painted Grey Ware sherds*



A



B

A, *Prince of Wales Museum, Bombay: bowl with inscribed Kharoshthi inscription;* B, *State Archaeological Gallery, West Bengal, Calcutta: Krishna-lila scene on a slab* (60×31 *cm.*), *Jagadanandapur, Burdwan*



A



B



C

A, *National Museum, New Delhi: Trivikrama-Vishnu, tenth-twelfth century, and* B, *Yoga-Narasimha, fifteenth-sixteenth century;* C, *Archaeological Museum, University of Saugor: Skanda-mata, late Gupta period, ht. 1·7 m.*

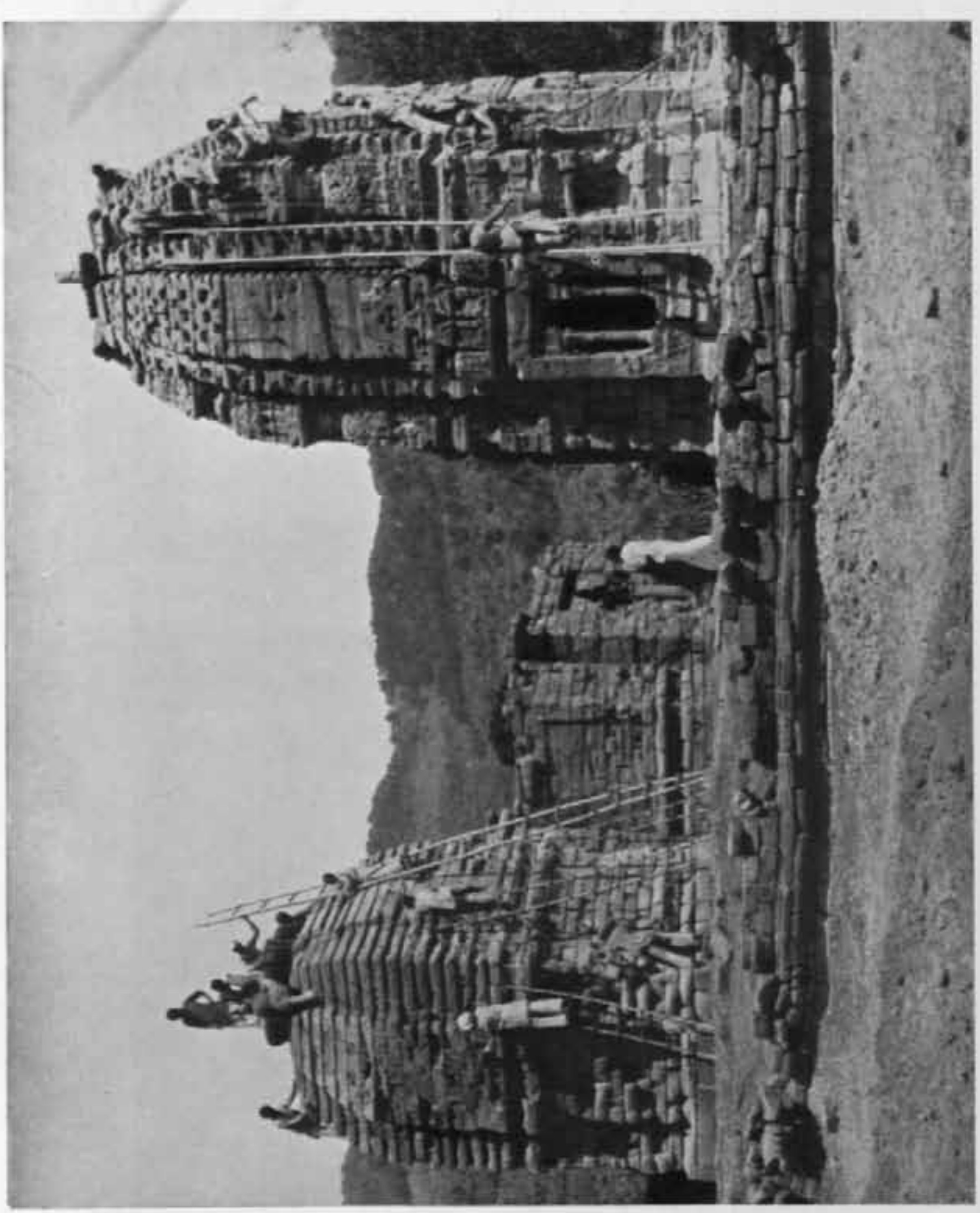


A



B

Udayagiri: approach-ramp and retaining-wall, A, *before, and* B, *after conservation*



Kiramchi: temple, during conservation



A



B

Verinag : Mughal arcade, A, *before, and* B, *during conservation*



A

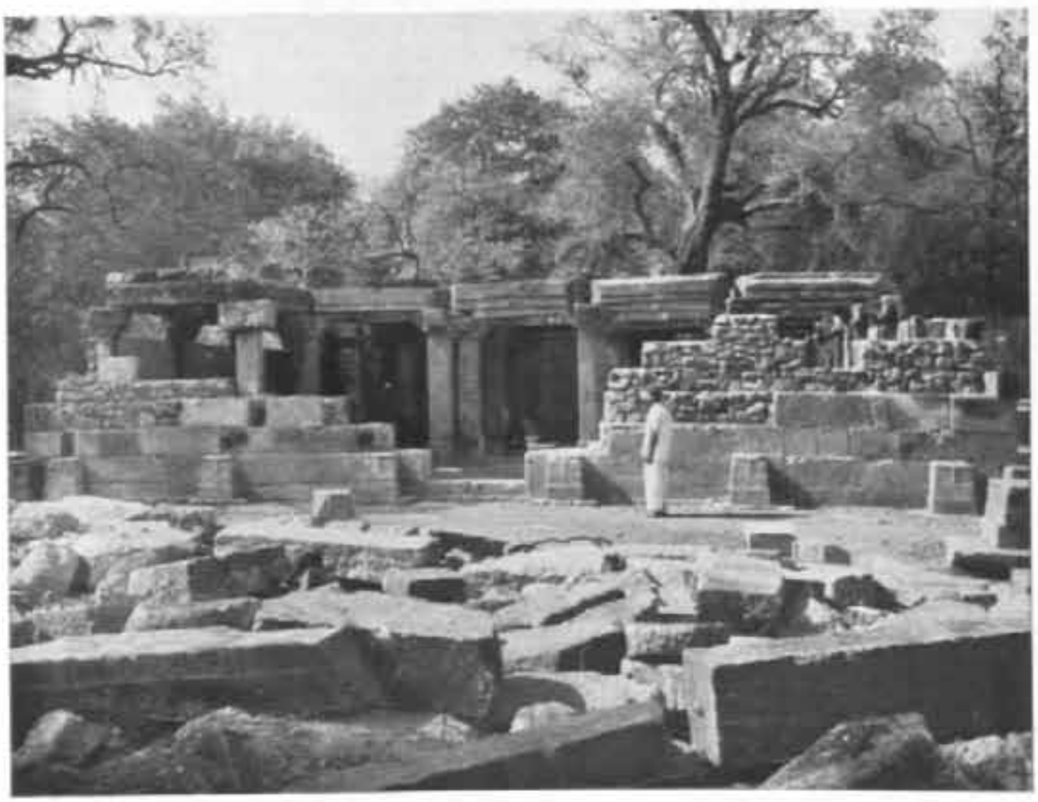


B

Bangalore: Tipu Sultan's palace, A, *before, and* B, *during conservation*



A



B

Pawagadh: mint, A, *before, and*, B, *after conservation*

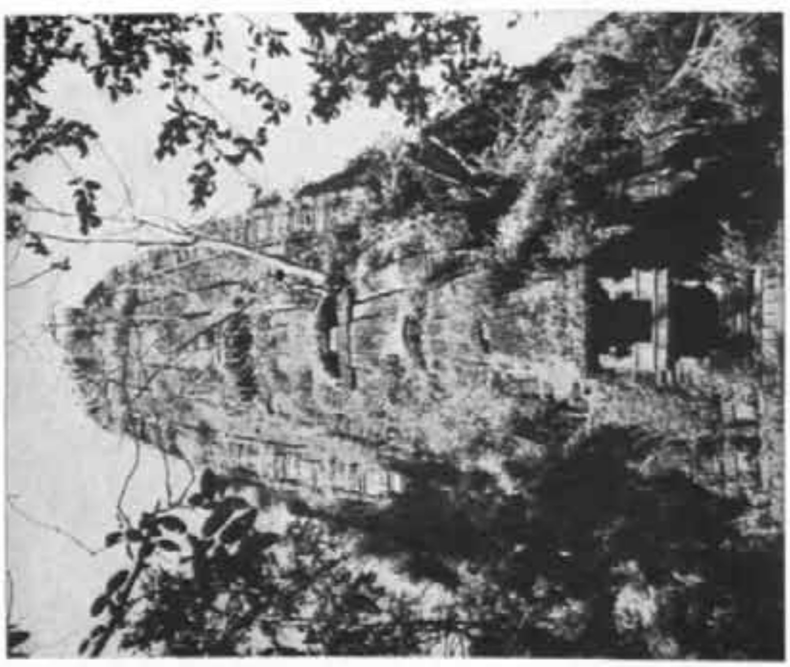


A

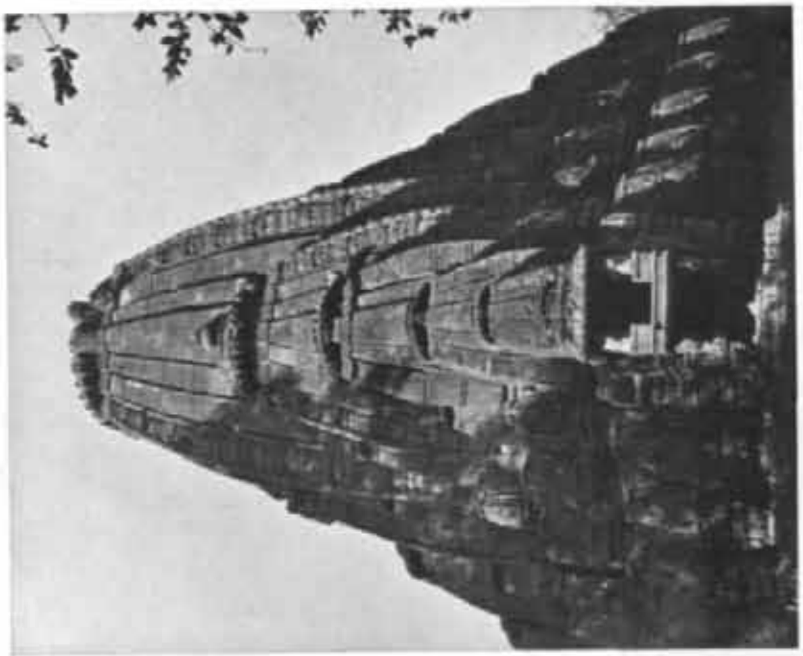


B

Chitorgarh: Ghee-ki-Baori, A, *before, and* B, *after conservation*



A



B

Abhapar: Jaina temple, A, *before, and* B, *after clearance*



A



B

Konarak: sculpture on Maya-devi temple, A, *before, and* B, *after treatment*



A



B

Jageshwar : sculpture on Mrityunjaya temple, A, before, and B, after treatment